AMATEUR RADIO

VOL. 53, No. 6. JUNE 1985

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

NEW 2m FM HANDHELDS from YAESU

bail

FT203R

2.5 watt
144-148 MHz

VOX operation with optional YH-2 Headset.

Thumbwheel Channel Selection.

PA-3 DC/DC Car Adapter/Trickle Charger (option)

FT209R

3.5 watt/350 mW

FT209RH

5 watt/500 mW

Microprocessor controlled

10 Memories

Reverse Repeater

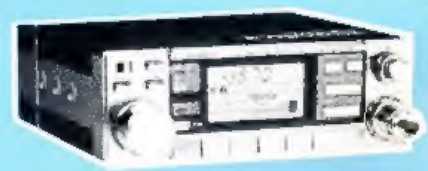
Power Saver to extend battery life

VOX operation with optional YH-2 Headset

PA-3 DC/DC Car Adapter/Trickle Charger (option)

bail

FRG-8800



FT-2700RH

bail

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Stan Roberts and Staff — VK3BSR

AR85

AMATEUR RADIO

Published monthly as the official journal by the Wireless Institute of Australia, founded 1910. ISSN 0002 — 8859. Registered Office: 3/105 Hawthorn Road, Caulfield North, Vic. 3161. Telephone: (03) 528 5962.

Design by Betken Productions Photographs by Ken McLachlan VK3AH

It was a momentous occasion in April when thirty years of Federal Presidency got together at the Annual Convention Dinner. The feature photograph is Bill Gronow VK3WG. Bill was President in 1939 and from 1947-50 and again in 1954. Lower left — Max Hull VK3ZS, from 1958-61 and 1965-67. Max was also Vice-President from 1955-57 and 1962-1964. Michael Owen VK3KI from 1969-1972 and Vice-President in 1968. David Wardlaw VK3ADW from 1973-79 and 1984 to the present. Peter Wolfenden VK3KAU 1980 to 31st December 1982 and Vice-President 1976-79. Bruce Bathols VK3UV 1st January 1983 to April 1984 and Vice-President 1981-82.

SPECIAL FEATURES

TECHNICAL FEATURES

REGULAR FEATURES

This month's magazine features a great deal of history in many forms. Firstly, on the cover are six gentlemen who have occupied the President's chair for a total of approximately thirty years, with the main photograph being Bill, who served his first Presidential term in 1939 to our present President, David, who is serving his ninth term.

On P28 there is a brief look at the life of Ross Hull, one of the early pioneers of amateur radio, a former Vice-President of the WIA and the man who is remembered yearly with the Ross Hull Contest.

Herbert VK3DHI/K2LVU tells how he met with Nicola Tesla, P20 and on P7 Tim VK2ZTM concludes his journey through the years of repeaters.

Alan VK4SS received an honour for his achievements over the years in amateur radio, P29, Ted VK4YG recalls the devastating effects of Cyclone Tracy, P18, whilst Max VK3ZS searches for more history on P31.

The Technical Side of Early Amateur Radio, P14, gives an interesting side of the early days and gives a circuit of a receiver designed by the above-mentioned Ross Hull.

DEADLINE

All copy for August 1985 AR (including regular copy of Hamads and columns) must arrive at PO Box 300, Caulfield South, Vic 3162 at the latest by midday 21st June 1985.

UNINTERRUPTED FREQUENCY COVERAGE
100KHz~1.4GHz with RF CONVERTERS for SX-400 SERIES

SCANNING MONITOR RECEIVER

FIRE · EMERGENCY · MARINE · AIR · SPACE INFORMATION · BUG DETECTER

RF-8014 DOWN CONVERTER

800MHz ~ 1.4GHz RF converter for SX-400

●Bands •MAIN (to cover 26 ~ 520MHz with SX-400)•800MHz ~ 1.0GHz•1.0GHz ~ 1.2GHz •1.2GHz ~ 1.4GHz•AUTO (Automatic control of RF-8014 with an external computer, etc.) ●Frequencies shown in SX-400 display: 500MHz lower between 800MHz ~ 1.0GHz; 700MHz lower between 1 ~ 1.2GHz; 900MHz lower between 1.2 ~ 1.4GHz ●Individual Band Switches and LED Indicaters ●Current Drain: 250mA (approx.) ●Accessories: 1 BNC/M-adapter, 1 Cable with BNC terminals ●Dimensions: W 148 × H 51 × D 225(mm)

RF-5080 DOWN CONVERTER

500 ~ 800MHz RF converter for SX-400

●Bands •MAIN (to cover 26-520MHz with SX-400)•500 ~ 600MHz•600 ~ 700MHz•700 ~ 800MHz •AUTO (Automatic control of RF-5080 with an external computer, etc.) ●Frequencies shown in SX-400 display: 300MHz lower between 500 ~ 600MHz; 400MHz lower between 600 ~ 700MHz; 500MHz lower between 700 ~ 800MHz ●Individual Band Switches and LED Indicaters ●Current Drain: 250mA (approx.) ●Accessories: 1 BNC/M-adapter, 1 Cable with BNC terminals ●Dimensions: W 148 × H 51 × D 225(mm)

RF-1030 UP CONVERTER

100KHz ~ 30MHz RF converter for SX-400

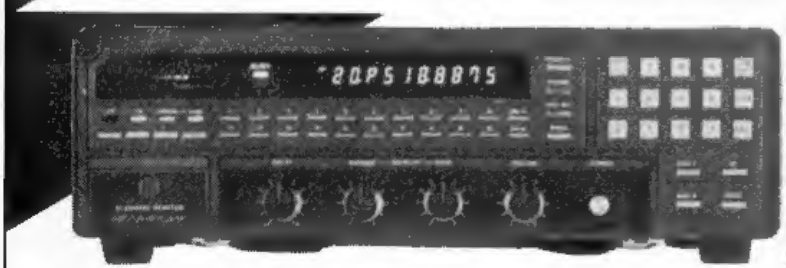
●Bands: (1) 100KHz ~ 1MHz, (2) 1 ~ 2MHz, (3) 2 ~ 4MHz, (4) 4 ~ 8MHz, (5) 8 ~ 17MHz, (6) 12 ~ 30MHz•AUTO (Automatic control of 6 bands of RF-1030 with an external computer, etc.) ●Frequencies shown in SX-400 display: 50MHz higher on all bands than the frequencies received. ●Individual Mode Switches and LED Indicaters: AM, USB, LSB, CW, AUTO•CW filter (optional) required for CW reception•AUTO—Automatic Control of modes of RF-1030 with an external computer, etc. ●Band Switch and LED Band Indicaters, Squelch Control, RF Att., AF Gain Control, Delta Tuning, IF ON/OFF Switch, NB (Noise Blanker) Switch ●Current Drain: 1A (approx.)

*Power Supply Unit P-1A (optional) required for RF-1030. ●Accessories: 1 BNC-M-adapter, 2 Cable with BNC terminals ●Dimensions: W 300 × H 90 × D 233(mm)

ACB-300 ANTENNA CONTROL BOX

Manual and Automatic antenna control system for SX-400 series RF converters

●Individual Band Switches and LED Indicaters: 1030, 5080, 8014, 1.4GHz UP (for reception of 1.4GHz above) AUTO (Automatic control of antennas for RF-1030, RF-5080, RF-8014 and for MAIN scanner) ●Current Drain: 50mA (approx.) ●Accessories: 1 Cable with BNC terminals ●Dimensions: W 148 × H 51 × D 225(mm)



SX-400

26 ~ 520MHz General Coverage Scanner

●Wider Coverage (100KHz ~ 1.4GHz or above) with RF converters (optional) ●Computer controlled memory channel expansion (unlimited), High-Speed reprogramming, Record of Frequencies and Time, and all functions remote controllable with RC-4000 Interface (optional) ●20 memory channels, Momentary recall of any memory channel ●Continuous normal and limit search without interruptions by birdies ●Stop Mode Switch for scan or search of modulated signals ●Quick search of the most important frequency with Priority ●Selective FM Narrow/Wide Switch for FM/TV listening ●Variable Delay Control (0 ~ 4 Sec.) ●Current Drain: 1A (approx.) ●Dimensions: W 300 × H 90 × D 233(mm)

RC-4000 DATA INTERFACE **Control of SX-400 series Scanner and RF Converters through Computer.**

●Direct system for NEC 8801A computer ●High-Speed Reprogramming of 20 channels ●Scan of unlimited channels stored in computer ●Record of Frequencies and Time of signals received ●Automatic Control of Bands and Modes of RF converters and ACB-300.

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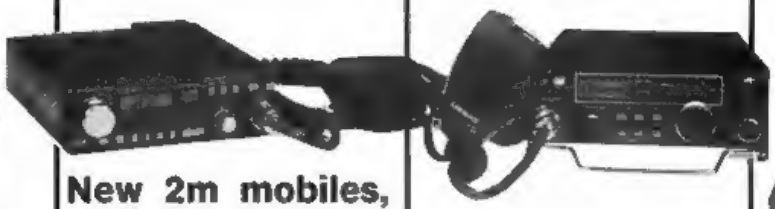
The Latest from Yaesu!

Economy 70cm

Value & reliability - with the latest in features! That's the new FT-703 hand held. Tiny size: but what a performer: even has VOX with optional headset! Cat D-3508

$479



FT-270

New 2m mobiles, Too!

Want economy? Try the new FT207R. Want power? Try the new FT207RH. You get the choice - up to an amazing 45W output (Yasesu's new duct-flow cooling makes it all possible!) Both have 10 memories, dual VFO's plus all the new goodies that make 2 metres fun again!

FT270R (25/3W) Cat D-3515 **$699**

FT270RH (45/5W) Cat D-3517 **$649**

Mobile 70cm

Full 10 watts output on 70: two 4-bit microprocessors make everything so easy!
And it's small enough to go anywhere. Features a brilliant display for extra road safety - and with fast/slow band scanning, it's great, mate! Cat D-3505

$449

FT-709

Push-Button 70cm

Real performance in a hand-held. Push-button keypad gives you real control; add the battery pack you want for the output you want!
Cat D-3509

10.8V Battery Pack Cat D-3506 **$79**

12V Battery Pack Cat D-3507 **$89**

$499 Battery Not Inc.

FRV-8800 VHF Frequency Conv

Fits right inside case - complete with its own telescopic antenna. Frequency range 118-174MHz
Cat D-2823 **$149**

FRA-7700 Active Antenna

Great for flat dwellers! No need for an outside antenna and preamp will pull in stations you didn't think possible!
Cat D-2845 **$89.50**

FRT-770 Antenna Coupler

Ensures best performance from all types of antennas. A must if your antenna is not low impedance.
Cat D-2843 **$95**

FRG-8800 DC Kit

Allows operation of your FRG-8800 on 12V DC. Great for field operation, monitoring, etc.
Cat D-2822 **$2.50**

FRG-8800: All band all mode

And all singing, all dancing. Amazing performance in Yaesu's new masterpiece, the FRG-8800 receiver. Choice of two models, both featuring the very latest in receiver technology.

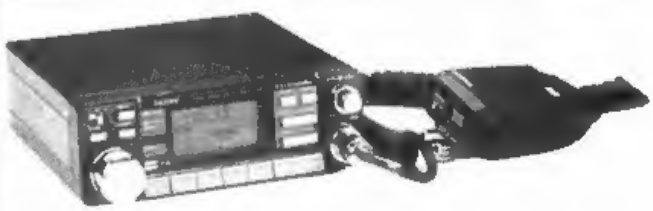
- 150kHz-30MHz coverage (FRG-8800)
- Fully CAT compatible (computer aided transceiver)
- Provision for VHF converter inside the receiver!
- 10 memory channels inbuilt (nothing more to buy!)

And much, much more. Ask for a free FRG-8800 brochure at your nearest Dick Smith Electronics store.

FRG-8800 (150kHz-30MHz)
Cat D- 2820 **$799**

FRG-8800SW (2MHz-30MHz)
Cat D -2821 **$749**

VHF converter to suit (118-174MHz)
Cat D-2823 **$149**



2M/70cm FT2700RH

Versatility: both hands in a set so small you wouldn't believe it! Full duplexing, twin VFO's, ten memories ...whatever you want, the 2700 has got!

It features dual independent front ends, dual local synthesisers, dual IF's and transmitter rf stages to make sure you really do get the best of both worlds.

And it even speaks to you: add the optional voice synthesiser and it actually tells you which frequency you're on. Hows that!!!

- 25 watts continous on both bands
- two 4 bit CPU's for complete control
- Amazingly tiny size: just 150 × 168 × 50!!!

Cat D-3515 **$945**

YAESU

A963/6.85

The best from

DICK SMITH ELECTRONICS PTY LTD

All these items available from your nearest Dick Smith Store.

ARK5

EDITOR'S COMMENT

TWO-WAY COMMUNICATION

It has been said many times that although radio amateurs are specialists in communication we don't communicate well. It is not our ability to produce readable signals which is thus criticised, but rather our failure to make our opinions heard by those who can "change the system" to suit us.

Your Editor heard this complaint again recently, during an enjoyable weekend at the VK5 Clubs' Convention to which he was generously invited. Originating in VK4, but now an annual function in VK2 and 5 also, these Conventions are an excellent means by which the Institute's members can brief their Federal Councillor on how he or she should represent their views to the Federal Convention a few weeks later. They are perhaps the best method so far evolved to overcome our communication problem.

There are several avenues for communication between Council or Executive and you, the members, but they are all rather one-way. This magazine, the Divisional journals or newsletters, Club newsletters, the Divisional broadcasts; all are basically "to" the members, not "from" them, even though many individual members may contribute their own special news or opinions. At Club and Federal Conventions the flow of information tends to be the other way, "from" the members "to" their representatives, and the more this happens the more democratic we become.

But once a year is not enough! In the fast-moving worlds of technology and politics the steady-state hardly exists. Today's technology is obsolete almost before it reaches production, and today's political "cock of the roost" is tomorrow's feather-duster!

So, if you have a particular view on how something should be done, don't just complain that "they" never do anything about it. Tell "them", or better still offer to do it yourself. Write a letter to the Editor, or to your Division, or your Federal Councillor. Write an article. If you are not a member the answer is obvious. JOIN! Make your opinions known, so that Councillors have more than their own intuition or guesswork to guide them. Let's communicate more usefully, and make it all two-way.

Bill Rice VK3ABP
Editor

AR

WIA Seventy Fifth Anniversary

JUNE 1985

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30 SMIRK QSO Party						1 J150 Launch Celebrations closes – VK5
2 Italian National Day	3 Foundation Day – VK6 School Resumes – VK5	4 Midway Island Battle	5	6 D-Day	7	Bounty Day – Norfolk Island DX-position – Monash Uni/VK3 SERG Convention VK/ZL RTTY DX Test VK7 Hamfest
DX-position – Monash Uni/VK3 SERG Convention VK/ZL RTTY DX Test VK7 Hamfest	Prince Phillip's Birthday Queen's Birthday Holiday SERG Convention VK/ZL RTTY DX Test	11	12	13	14 USA Flag Day	15 All Asian Phone Test Magna Carta Signed
16 All Asian Phone Test USA Father's Day	17 School Resumes – VK7	18	19	20	Amateur Radio Deadline School Break-up – VK4 School Break-up – VK8 Winter Solstice	22 ARRL Field Day Test
23 ARRL Field Day Test	24 VK1 Div Meeting	25 VK5 Div Meeting	26	27	28 SMIRK QSO Party	29 SMIRK QSO Party

KENWOOD

TOMORROW'S SOPHISTICATION FOR TODAY'S ENTHUSIAST

TS-940S HF TRANSCEIVER

The TS-940S is a competition class HF transceiver having every conceivable feature, and is designed for SSB, CW, AM, FM and FSK modes of operation on all 160 through 10 meter Amateur bands, including the new WARC bands. It incorporates an outstanding 150 kHz to 30 MHz general coverage receiver having a superior dynamic range (102 dB typical on 20 meters, 50 kHz spacing, 500 Hz CW bandwidth).

Engineered with the serious DX'er/contest operator in mind, the TS-940S features a wide range of innovative interference rejection circuits, including SSB IF slope tuning, CW VBT (Variable bandwidth tuning), IF notch filter, AF tune circuit, Narrow/Wide filter selection, CW variable pitch control, dual-mode noise blanker, and RIT plus XIT. The use of a new microprocessor with advanced digital technology controlled operating features, plus two VFO's, 40 memory channels, programmable memory and band scans, a large fluorescent tube digital display with analog-type sub-scale for frequency indication, and a new dot-matrix LCD sub-display for showing graphic characteristics and messages, all serve to provide maximum flexibility and ease of operation. In addition, a CW full break-in circuit, switchable to semi break-in, a built-in automatic antenna tuner, a solid-state final amplifier that is powered from a higher voltage source, a speech processor, all-mode squelch, and a host of other convenience features all add up to even greater versatility of use in fast-paced DX operations. With its power supply and antenna tuner built-in, and with its new whisper-quiet cooling system, the TS-940S is a complete, all-in-one type transceiver that brings tomorrow's sophistication to today's serious enthusiast.

TS-43X HF TRANSCEIVER

The most versatile transceiver of the 80's.

TRIO-KENWOOD (AUSTRALIA) PTY. LTD.

(INCORPORATED IN N.S.W.)

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AR85

REPEATERS — Friend or Foe!

CONCLUSION

Tim Mills VK2ZTM
PO Box 204, Willoughby, NSW, 2068.

I ended last month by saying that the turmoil of the 70s was yet to be overcome. To many, the introduction of FM and in turn repeaters, was the turning point of amateur radio, hence the heading for this column. During April in Sydney, a person was fined in a Federal Court – the maximum of $100 each on two charges – for offences committed on the two metre band, in particular on Sydneys' repeater 7000. No doubt there will be others yet to face the courts. As one monitors the various repeater allocations, it is disturbing to observe the behaviour of a minority of users like the self appointed 'policeman' who seems to lie in wait for illegal transmissions so he can bait and abuse them. Sometimes this has to be done to help in the direction finding of the offenders but it becomes apparent that there are those who just do it to be objectionable and get some form of kicks from their action. Two way radios are very public systems and many amateurs like to involve their family in the hobby. It does nothing for the image however when other family members observe the behaviour. If anybody is in doubt on the expected behaviour you can read it up in the recently reprinted DOC Handbook. If you observe someone who's behaviour is not the best, have a quiet word with them if you wish, off air if possible.

There is one group of amateurs who consider the only true 'experimenter' is the person who operates in the 'tuneable' mode on a VHF/UHF band. In the old days the first 100 kHz was deemed to be the DX portion for either CW or those (country) stations outside a metropolitan region. The rest of the band – for a couple of hundred kHz anyway – was the tuneable portion. Today the bands are filling up with a range of new modes. Almost gone as AM and CW. In its place is to be found SSB, FM, RTTY, SSTV, FAX, Packet and other forms of Data. These various modes find suitable 'channels' either by local or national band planning. The determination is a far cry from the planning for a few repeaters at Wodonga in 1968 and Albury in 1972.

Thank you for the comments and letters re the first part of the series. In the near future I will be seeking a few details about various repeater systems for inclusion later in the series.

To hand is a note from John VK2BHO (PO Box 1511, Wollongong, 2500) who is researching the history of the old Illawarra region AM nets in the late 60s on 53.982 MHz. Can you help? Drop him a SAE for one of his questionnaires.

In closing for this month, a reminder to repeater groups. Did you update your details with your State committee for inclusion in the next Call Book? There are now over 150 repeater systems in Australia. AR

WIA Seventy Fifth Anniversary News

VK75A

For members information, the QSL manager Des Clark VK3DES, reports that to date some 5000 plus contacts have been logged.

BOOK PACKS, THE 75TH ANNIVERSARY AND THE YEAR OF YOUTH

The book pack scheme to celebrate the 75th Anniversary and International Year of Youth is under way.

Book packs are available on application to the Federal Secretary with a cheque payable to the Wireless Institute of Australia. There are three values available: $15, $30 and $50 post and packing paid.

For members wishing to participate in this scheme it is necessary to notify the Federal Secretary of the school or college etc that you intend your donation to be sent to.

FIRST BOOK PACK PRESENTATION TO REGENCY PARK CENTRE

Jenny VK5ANW explains the finer points of amateur radio to Julie Emmerson, Librarian at Regency Park Centre for the Young Disabled.

On Thursday 18th April 1985, Jenny Warrington VK5ANW and Marlene Austin VK5QO visited Regency Park Centre for the Young Disabled to present a WIA Book-Pack on behalf of ALARA.

The presentation was made in the Centre's Library by Jenny, as Secretary of ALARA, to Julie Emerson the Head Librarian under the watchful eyes of Christine Rowell the Centre's Promotions Manager and Marlene who is the Editor of ALARA's Newsletter.

The centre caters for disabled youngsters from 3 years to 18 years, so it was felt that the books on amateur radio would be eminently suitable for the teenagers there and hopefully give them a lifelong interest in Electronics and Radio.

The Centre is divided into two areas, the residential and the day centre. After the presentation of the Book-Pack and a brief explanation of the running of the Library (which consists of a toy-library and the normal book part — much like a normal school library, for the children; and a medical library for the staff) we were taken on a tour of the day centre, by Christine Rowell. The tour included a brief look at Class-rooms, the Pre-School centre; boot, caliper, etc, workshop; wheelchair maintenance shop; swimming and hydrotherapy pools (with one way glass so that our watching did not distract the lessons) and a prolonged stay in the electronics room, where assessment programmes are worked out with the aid of computers and all sorts of electronic aids. A couple of times the demonstrations (which were still in the development stages) didn't work and Marlene and I hoped against hope, that they wouldn't believe the "build up" that Christine had given us at the start, and ask us to fix it!!

The Centre was delighted to received the books and at the end of the tour we felt that they couldn't have gone to a more deserving place.

FORMAL DINNER

Planning is well in hand for this historic occasion which will take place on 9th November 1985 at the Southern Cross Hotel in Melbourne.

Acceptances to the invitations sent to overseas guests are arriving daily. To date dignitaries such as Mr Dick Butler, Secretary General of the ITU, Mr John Allway of the IARU have accepted, as previously mentioned in earlier editions of the 75th News.

A percentage of seats have been reserved for Institute members so any member who wishes to attend, should notify the Federal Secretary of their intentions. Seats are being allocated on a first come, first serve basis.

AR

Never let is be said that amateurs are satisfied with the ordinary. Here's proof that they are not.

Please QSL — Send Spoon!

MAYER D ZIMMERMAN W3GXK

Being an avid DXer, I not only enjoy working that "new one" in a pile-up, but I also appreciate a good ragchew with a friendly foreign amateur. I really enjoy getting cards directly from diverse and faraway places such as New Zealand, Japan, South Africa, and eastern Europe. No doubt the XYL's uncle enjoys receiving from me the envelopes and stamps which greatly enhance his collection. I always ask for stamps when QSL'ing direct.

And that's where the problem arises. Since I'm basically a very friendly and good person, I like to accommodate all of the unusual requests I receive along with the QSL cards and stamps. You would not believe some of the items foreign amateurs have asked me to send them! (Of course, they always offer to pay for the items and even the postage, which I always refuse, despite the fact that I am not independently wealthy.

Some of the requests are not unusual. A friend in Bulgaria asked for a map of the world with amateur prefixes on it. That was an easy request to honor. The thank-you letter arrived several weeks later and was recompense enough.

One QSO with a new friend in VK-land left me with a request for a used licence plate. He collects them. No problem. Off to my collection of items never discarded (every good amateur has such a collection, no doubt). We found the XYL's expired tags from last year, and off I went to the post office again. The reward? An unsolicited, x-rated QSL card of a special beach in VK-land.

The latest and perhaps most unusual request was the inspiration for this article. A recent enjoyable QSO with a South African YL ended with my frequent suggestion to QSL direct, along with stamps from ZS-land. A couple of weeks later a fat envelope with red and blue stripes arrived stuffed with stamps, some dating back to World War II. Beautiful stamps, gorgeous QSL card, friendly letter with the inevitable request and offer to pay for the requested item and the postage. The request? A request for a spoon with the word "Maryland" on it. Yes, the young lady collects spoons with the names of states on them, and she needed one from Maryland. And you thought WAS stood for Worked All States. No! It's really Worked All Spoons! Perhaps she will eventually hold a QSO with my friend from Australia and send him a licence plate or two in exchange for some miscellaneous silverware. Maybe they'll even get together at a DX convention sometime, somewhere, and compare spoons and licence plates!

So, if you have any spoons with the name of your state on them, or if you have not yet discarded last year's licence plates, please let me know. I can tell you who wants them. Meanwhile, please QSL direct, and send stamps!

Abridged from CQ — October '84.

AR

LOCATION OF GEOSTATIONARY SATELLITES

Harold Hepburn VK3AFQ
4 Elizabeth Street, Brighton East, Vic.

Please refer to pages 20 and 21 of May Amateur Radio for the text which is relevant to this computer programme. Unfortunately Murphy had a hand in last month's magazine with the result being a swapped programme. For the text to last month's programme please turn the page.

```
10 REM " GEOSTAT ASPECTS"
11 PRINT CHR$(147)
12 POKE 53281,0
13 POKE 53280,4
14 PRINT CHR$(5)
20 PRINTSPC(7)"*****************************"
30 PRINTSPC(7)"*  COMPUTES THE AZIMUTH   *"
40 PRINTSPC(7)"* ELEVATION AND RANGE OF *"
50 PRINTSPC(7)"*       GEOSTATIONARY     *"
60 PRINTSPC(7)"*        SATELLITES       *"
70 PRINTSPC(7)"* BY H.L.HEPBURN  VK3AFQ *"
80 PRINTSPC(7)"*     FOR C-64   31/1/85  *"
90 PRINTSPC(7)"*****************************"
100 PRINT
110 PRINT"1.ENTER YOUR LATITUDE      "
115 INPUT"  (NEGATIVE FOR S LATS)    ";LA
120 PRINT"2.ENTER YOUR LONGITUDE     "
135 INPUT"   IN DEGS WEST            ";LO
150 PRINT"3.ENTER SATELLITE          "
160 INPUT"   LONGITUDE IN DEGS WEST ";S
180 INPUT"4.SATELLITE NAME           ";S$
190 PI=3.14159
200 LA=PI*LA/180:LO=PI*LO/180
210 S=PI*S/180
300 DEF FNA(X)=-ATN(X/SQR(-X*X+1))+1.5708
310 X=(COS(LA)*COS(S-LO)):TH=FNA(X)
320 X=(-TAN(LA)*COS(TH)/SIN(TH)):AZ=FNA(X)
330 IF SIN(S-LO)<0THEN AZ=6.28-AZ
335 EL=ATN((COS(TH)-.151046)/SIN(TH))
340 RA=SQR((1.81854E8-(5.37111E8*COS(TH))))
350 AZ=AZ*180/PI
370 EL=EL*180/PI
375 IF EL<1 THEN GO TO 570
380 PRINT
390 PRINT
400 PRINT"AZIMUTH          ";INT(AZ)
410 PRINT"ELEVATION        ";INT(EL)
430 PRINT"RANGE-KMS        ";INT(RA)
440 END
570 PRINT
580 PRINTSPC(7):PRINT CHR$(18)"SATELLITE BELOW HORIZON"
600 END
READY.
```

AMATEUR STATISTICS IN THE USA

The USA FCC operates on a fiscal year 1st October to 30th September and consequently keeps licensing statistics by fiscal year.

FCC records show that in the 1983 year 20 940 people entered amateur radio in the USA for the first time. In the same period 16 601 licences were allowed to expire. In the 1984 year there were 18 800 newcomers and 18 644 losses.

From OST January 1984

AR

LOCATORS

Harold Hepburn VK3AFQ
4 Elizabeth Street, East Brighton, Vic. 3187

For many years European amateurs, more specifically those interested in VHF communication, have been using a five character code as a convenient shorthand way of stating their location.

**Refer to pages 20-23 last month for the computer programme for this article.

Orig nally called the "QRA" system, it later became known as a "QTH locator" and a "Locator" statement has long been requ red by many European VHF contest organisers n logs submitted by contestants.

So long as it was confined to Europe the system served its purpose but any attempt to expand it to the rest of the world led to some funny anomolies — such as a s ngle "Locator" be ng shared by Iceland and Turkey!

However the system was most useful, and, if it could be corrected and expanded into a simple system which could place an amateur stat on to within a couple of kilometres anywhere in the world, it had obvious advantages, not on y for VHF enthusiasts, but for the HF buff too.

After several years work, and the evaluation of different propositions put forward by a lot of people, a new system was adopted by all three regions of the International Amateur Radio Union. This new system came into force on the 1st January 1985.

The strong poss bility ex sts that there will be a fairly rapid swing to the use of Locators to replace such contest reports as '59 T mbuctoo' or '59+zone number' fam liar to most contest enthusiasts. *(Just why contest reports are always 59 is NOT explored in this article!)*

In brief the new "Locator" system enables a six character combination to define the position of an amateur station anywhere in the world to within a couple of kilometres. To do this using conventional statements of lat tude and longitude would take around twenty characters. As an example the writers QTH is. If the survey maps are to be be lieved, situate at 37 degrees 54 m nutes and 34 seconds, lat tude and 145 degrees 0 minutes 58 seconds east longitude. Even when the norma abbreviations are used (" ', E,S etc) the ful statement requ res 20 characters. The correspond ng Locator is QF22MC — just six characters. The degree of accuracy is the same!

As shown in the above example, the Locator consists of two letters, two figures and two more letters. They are related to latitude and longitude as follows.

The system f rst divides the world into 324 "fields" each "field" covering 20 degs of longitude (from west to east) and 10 degs of latitude (from south to north). The first two letters of the Locator define a specific "field".

Each "field" is then divided into 100 "squares", each "square" representing 2 degs of longitude by 1 deg of latitude. The two figures of the Locator define a specific "square".

Each "square" is then divided into 576 "sub-squares", each "sub-square" being 5 minutes of longitude by 2.5 minutes of latitude. The last two letters of the Locator define a specific "sub-square".

A very definitive article by one of the main proponents of the new Locator system — John Morris GW4ANB — appeared in the October 1984 issue of "Radcom" (the Journal of the RSGB) and those interested in a more detailed explanation of the system, together with a manual method of working out Locators are referred thereto.

The Commodore C-64 programme now presented is based on GW4ANB's manual method and requires a knowledge of one's own station in degrees, minutes and seconds of both latitude and longitude. The actual input to the programme is in degrees and the nearest half minute. This information can be obtained from many sources but the first try might well be your local city or shire engineer or your local library. If this doesn't work then you will have to look for a survey map of your area.

Having written the "lat/long to Locator" programme a second "reverse" programme was written which outputs latitude and longitude when a Locator is put in. It then seemed an obvious step to tack on a third section which accepts latitudes and longitudes of both your own and a distant station (or the lat/long of the nearest identifiable town or city if your contact doesn't know where he is!) and outputs both long and short path bearings and distances — just the thing for VHF log entries in this years NFD where bonus points are awarded for distance.

OPERATION OF THE PROGRAMME

Having 'Loaded' and 'Run' the programme the screen clears and then gives the user four options.

1. To determine a Locator if latitude and longitude are known.
2. To determine latitude and longitude if the Locator is known.
3. To determine long and short path bearings and distances if latitude and longitude (or Locators) is known.
4. To 'End' the running of the programme if access is required to the programme itself.

If the first option is taken (ie to work out a locator) the screen clears and the user is asked to enter, in order

1 Degrees part of longitude.
2 Minutes part of longitude.
3 Whether longitude is E or W
4 Degrees part of latitude.
5 Minutes part of latitude.
6 Whether latitude is N or S.

The programme does all the necessary conversions, adjustments and calculations and outputs the six character Locator.

The screen then asks whether another Locator is to be determined or whether a return to the menu is required.

The second option asks the user to input the six character Locator and the programme comes up with the corresponding latitude and longitude. It should be noted that this part of the programme calculates the centre point of the Locator square. The effect of this is to show a small d fference n the latitude and longitude figures if, say, a Locator is first calculated from a set of 'lats' and 'longs' in option 1 and then this Locator set re-entered into option 2. Unless the original point was exactly in the centre of the square in the first place the two sets of 'lats' and 'longs' w ll differ slightly. Th s difference should never exceed 3 minutes of longitude or half that in latitude.

The third option asks the user to enter the co-ordinates for his own station (called the source station) and the distant stat on (called the destination station). The screen then shows —

1 The long and short path distances in kilometres and
2 The long and short path bearings in degrees.

Fairly obviously, by transposing the source and destination data the reverse bearings (ie h m to you) can be calculated. Unless something cataclysmic has happened the distances should be the same!

If anyone wants a d sk copy of the programme they can contact me on (03)5982414. Can't currently help with tape copies since I don't possess a recorder.

Finally I must thank Alf Chandler VK3LC for getting me thinking about the subject, John GM4ANB for providing most of the Informat on and Ken Seddon VK3ACS for helping sort out the complexities of the spherical geometry involved.

AR

THUMBNAIL SKETCHES

Alan Shawsmith, VK4SS
35 Whynot Street, West End, Qld 4101

JOE ELLIS VK4AGL

Joe Ellis was born at Ventnor, Isle of Wight but went to school at Lismore, NSW. With the help of the Richmond River Listeners League he obtained his amateur licence at the age of sixteen and was active on ten and twenty metres using rotatable monoband Yagi antennas.

He trained at the Marconi School of Wireless to commercial standard and was a ships radio operator during World War II.

Post-war he was an aircraft radio technician at various airports in Australia and subsequently joined Qantas Empire Airways as a flight radio operator. During the change-over to pilot-operated radiotelephone he was based overseas to monitor radio standards and train aircraft engineers in basic radio servicing. Dur ng this period he obtained a commercial pilots licence. He spent the last sixteen years prior to retirement as a flight navigator.

Joe is a member of the Sunshine Coast Amateur Radio Club and is a liaison officer for the Radio Amateurs Old Timers Club of Australia. Antennas in use include a rhombic directed at the United States and rotatable Yagis for HF, VHF and UHF. He operates 160 metres through to 70 cm on CW, SSB and FM. The station motto is "Tune for Maximum Smoke".

AR

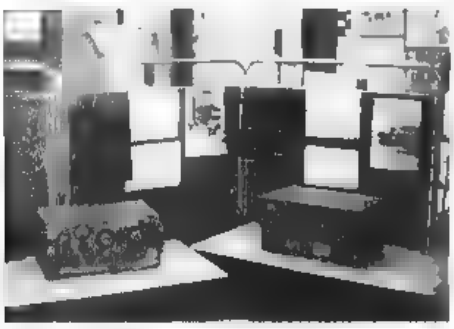
THE GREATEST SHOW ON EARTH

Colin MacKinnon VK2DYM
PO Box 21, Pennant Hills, NSW, 2120

As part of World Communications Year activities, the Castle Hill RSL Amateur Radio Club mounted an exhibition of amateur and military radio equipment at the Glenorie Public School. Glenorie is a bushy, outer Northern Sydney suburb and the exhibition was timed to coincide with the school's gala day.

The school pupils held competitions and made up posters with a WCY theme. A wide variety of communications gear was set up in a classroom and was open to the public for an entrance fee of $0.20, with the money going to the school funds. As over $100 was raised this means more than 500 people viewed the exhibit.

Special WCY "Show Bags" containing items donated by various communications organisations, electronics companies and Government Departments sold well. Assistance from the Tandy organisation and the Army and RAAF public relations offices was most appreciated.



From left — No 19 set and AMR101.

The radio gear on display included:- *No 19 transceiver, No 22 transceiver, AMR 101 communications receiver, ARB receiver BC433G compass receiver, PRC 10 VHF Backpack transceiver, ER-68-A transceiver (from a RAAF Mirage fighter), B-47 VHF transceiver C-11 HF transmitter, C-42 VHF transceiver to 60 MHz, C-45 VHF transceiver to 35 MHz (the last four items — army circa 1950s), R210 communications receiver, AR-88 communications receiver B-40 Navy communications receiver, a very wide band RF amplifier and several versions of the BC-454 (command sets).*

From left — BC454, R210 and wide band RF amplifier.

The equipment is owned by individual club members with an interest in collecting and restoring this type of [illegible].

An interesting aspect was that all the sets were functional and could be demonstrated in action. It probably is true to claim it was the biggest show of operational equipment of its type in Australia. (With genemotors whining, relays clacking, and loud speakers blaring, the noise was equally impressive!)

In an adjacent room the Radio Club's station, VK2DXS, demonstrated state-of-the-art HF and VHF operation. Publications on amateur radio and the WIA were distributed to interested parties. The children made up special QSL cards for the occasion, helped with money collection and explanations to the public, and generally had a good time.

The exhibition was so popular that the Headmaster of the Castle Hill Public School, who is also the Shire President, asked if the Club could repeat it at his school a couple of weeks later. Again it was a roaring (and noisy) success.

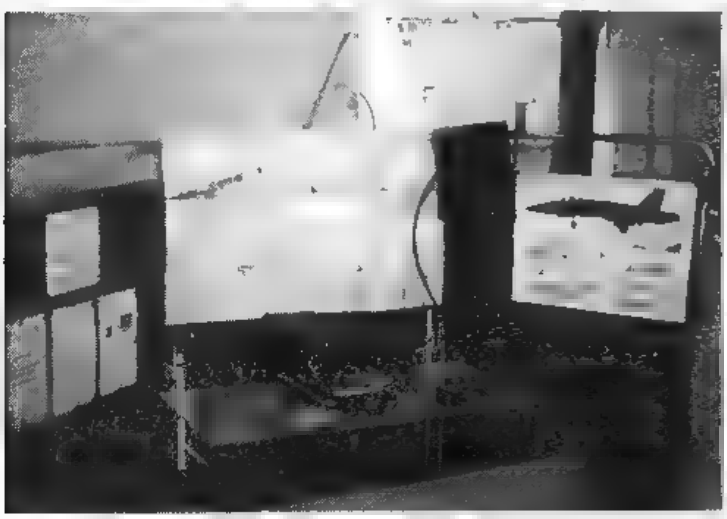
The driving force for the exhibitions was Ian VK2ZIO, who, apart from owning some of the vintage equipment, happens to be the Deputy Headmaster at Glenorie school.

Plans are in hand to improve the exhibition and to bring it to other schools and shows in the district. It is hoped to expand the range of equipment and show it in chronological order, a sort of "Amateur and Military Communications Through the Ages" exhibit.

In order to do this, members of the club are seeking donations of any amateur and military communications gear that would fit in with this theme. If readers have any gear that they would like to donate or perhaps sell for a reasonable sum, please contact the writer at the above address.

AR

Left to right — C45 with power supply and B47 on top, C11 transmitter with power supply, AR88 and B40.



ER68A Transceiver from a Mirage Plane.

Competition Posters.

RTTY Picture courtesy Steve Leatheam VK2BGL

ANOTHER CRYSTAL CONTROLLED AFSK GENERATOR FOR RTTY

Maurie Hooper VK5EA
11 Richland Road Newton SA, 5074

There was an excellent response by amateurs to the RTTY generator described in the August 1984 issue of AR. This article describes an improved design, incorporating all of the advantages of the previous one (eg frequency accuracy and stability, and lack of switching spurii when changing from one frequency to the other) and reducing the number of ICs used from seven to five — reducing the cost and complexity.

The divider circuit is 'user programmable', and virtually any available crystal in the range 1 to 10 MHz may be used, giving a frequency error of a few hertz at worst for the normal RTTY frequencies (2125 and 2295 Hz for mark and space). With slight modification the circuit could be used for any application requiring an accurate and stable clock (eg a UART) or, with suitable filtering, a sine wave frequency reference.

The constructor has the choice of using 74192 divide-by-10 or 74193 divide-by-16 presettable up/down counters. The circuit described uses the 74193 chip, but an example is given using the 74192 since the two IC types are pin-compatible. The counters are used in the pre-loaded down-counting mode ie they are loaded with a predetermined number (the divisor) and then count down to zero, as described in the following paragraphs.

CIRCUIT DESCRIPTION (See Figure 1)

IC1A and 1B together with the crystal, resistors and capacitor are configured as a square wave oscillator or "clock", the output being fed to a sequential binary divider chain comprising three 74193 presettable down counters (IC2, 3, 4). When the count reaches zero a "borrow" pulse is output from pin 13 of IC4, which when input to pin 11 of IC2, 3, and 4 causes them to be loaded with the data present at their "data input" pins 15, 1, 10, 9 (A, B, C and D inputs respectively). The down count then recommences. IC5 is a dual edge-triggered D flip-flop (of which only one flip-flop is used) wired as a toggle or divide-by-2 device. The borrow pulse from IC4 is used to clock the D flip-flop, producing a 50 percent duty cycle square wave output of half the frequency of the divider chain output. IC1C uses the "TTL input" to select the divisor for either mark (2125 Hz) or space (2295 Hz) as required. In Figure 1 a 0 V (logic 0) TTL input selects the "mark" frequency.

The circuit as shown uses a 3.579545 MHz TV "colour burst" crystal, readily available and quite inexpensive. This crystal produces calculated output frequencies of 2125.6 Hz (mark) and 2294.6 Hz (space) ie within 1 Hz of the nominal values.

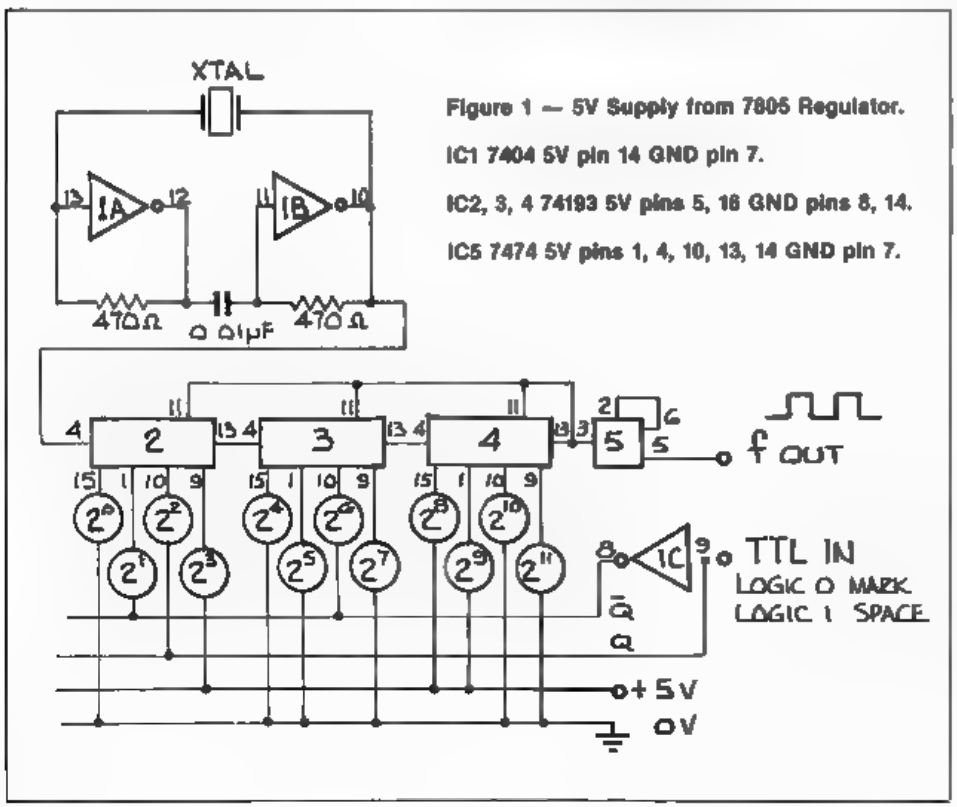


Figure 1 — 5V Supply from 7805 Regulator.

IC1 7404 5V pin 14 GND pin 7.

IC2, 3, 4 74193 5V pins 5, 16 GND pins 8, 14.

IC5 7474 5V pins 1, 4, 10, 13, 14 GND pin 7.

For those who wish to use a 'junk box' crystal, a relatively straightforward method is described to determine the wiring necessary to decode the divider chain to produce the correct output frequencies.

DECODING THE DIVIDER NETWORK

Since IC5 divides the output of the dividers by two, the divider chain (IC2, 3, 4) must produce outputs at pin 13 of IC4 of twice the mark and space frequencies ie 4250 Hz (mark) and 4590 Hz (space).

Let F be the crystal frequency in hertz and Dm and Ds the divisors required for mark and space respectively. Calculate Dm = F/4250 and Ds = F/4590 and round to the nearest whole number. As an illustration, the circuit of Figure 1 (F = 3579545 Hz nominal) is calculated giving Dm = 842.2 and Ds = 779.9 which, when rounded, gives the divisors Dm = 842 and Ds = 780. (The frequencies corresponding to the rounded divisors may be checked using f = F/(2xD).

The next step is to convert these two divisors to their binary equivalents, which is simply that combination of powers of two that when added together give the corresponding decimal number. The easiest method is to successively subtract the largest possible power of two from the divisor until the remainder is zero. This procedure is illustrated in Table 1.

TABLE 1 Example of conversion to binary

Power of 2	Decimal	Mark	Space
		842	780
2v10	1024	−512 (2v9)	−512 (2v9)
2v9	512		
2v8	256	330	268
2v7	128	−256 (2v8)	−256 (2v8)
2v6	64		
2v5	32	74	12
2v4	16	−64 (2v6)	−8 (2v3)
2v3	8		
2v2	4	10	4
2v1	2	− 8 (2v3)	− 4 (2v2)
2v0	1		
		2	0
		2 (2v1)	
		0	

giving 2v1+2v3+2v6+2v8+2v9 (for Mark)

giving 2v2+2v3+2v8+2v9 (for Space)

Note 2v5 represents 2 to the power 5 = 2x2x2x2x2 etc

Reverting back to Figure 1, the "TTL in" signal is inverted by IC1C so for an input of logic 0 (0 V), rail Q is logic 0 and Qbar is logic 1. Similarly, for an input of logic 1 (5 V), rail Q is logic 1 and Qbar is logic 0. To load the required divisor into the divider ICs the powers of 2 obtained in Table 1 must be applied to their data

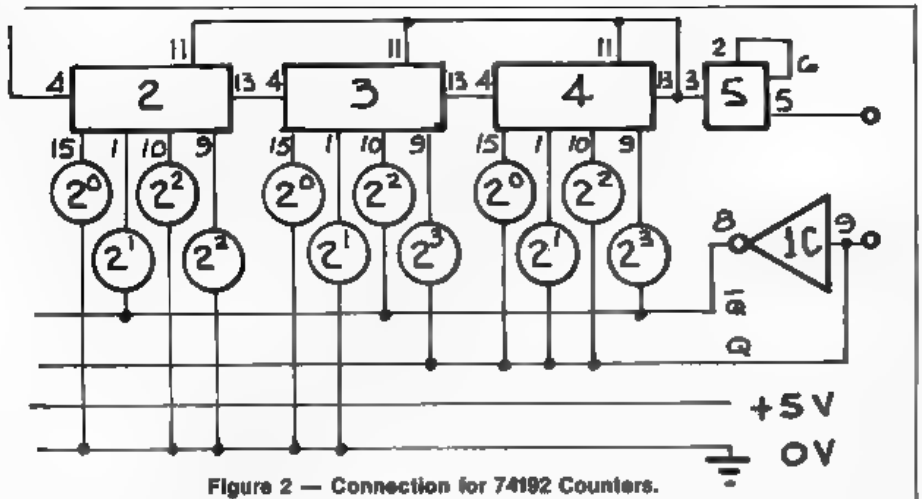


Figure 2 — Connection for 74192 Counters.

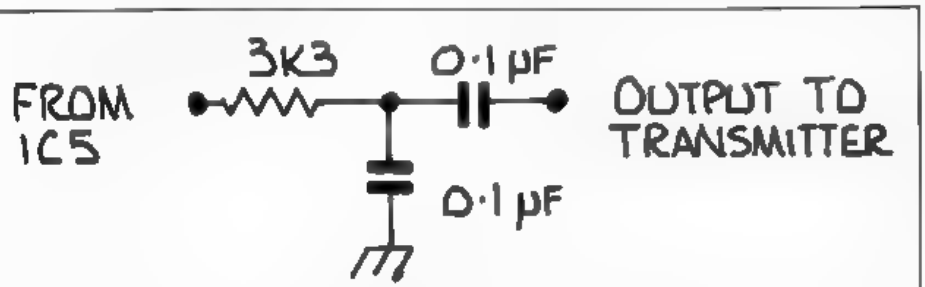


Figure 3 — Output Filter.

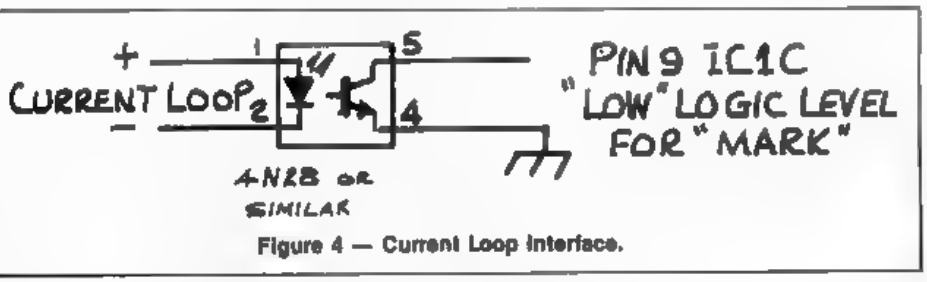


Figure 4 — Current Loop Interface.

nputs at a logic 1 leve (5 V), with unused powers of 2 held at logic 0 level (0 V). It is important that the powers of 2 common to both divisors (both used and unused) be permanently connected to the appropriate logic level, hence the use of +5 V and 0 V (GND) rails In the above case (Table 1) 2v3, 2v8 and 2v9 are common and are connected d rectly to the +5 V rail Similarly 2v0, 2v4, 2v5 2v7 2v10 and 2v11 are not used in either divisor and are therefore all connected to the 0 V rail. The remaining powers of 2 are connected to Qbar for "mark" (2v1 and 2v6) and Q for "space" (2v2).

USE OF THE 74192 COUNTER

If the constructor wishes to use the 74192 divide-by-10 counter a slightly different approach is required Each IC in this case is coded with a binary number correspond ng to one of the decima digits of the divisors with IC2 the lowest significant digit and IC4 the highest For the crystal used in Figure 1, the appropriate calculations are given in Table 2 and the method of connection shown in Figure 2

TABLE 2 Calculations for 74192 counters

From table 1 2=2v1 4=2v2 7=2v0+2v1+2v2 and 8=2v3
The appropriate wiring codes are therefore.

	IC4		IC3		IC2
"mark" = 842	(2v3)	+	(2v2)	+	(2v1)
"space" = 780 =	(2v0+2v1+2v2)	+	(2v3)	+	(—)

FILTERING

The output is a square wave and some filtering is desirable to reduce the harmonic content An active low-pass filter could be used, many circuits of which are readily available However, for most situations a simple RC filter (Figure 3) will suffice.

CURRENT LOOP INTERFACE

For those who still rely on a 20 or 60 mA current loop, a simple interface is given in Figure 4

CONSTRUCTION

The circuit wiring layout is not critical, and the use of veroboard or similar makes a neat job It is good practice to use sockets for the ICs.

Depending on the wiring layout, it may be necessary to add decoupling capacitors to reduce noise pick-up on the supply rails to the ICs. A few 0 02 uF ceramics at strategic places will do the trick

AR

THE ULTIMATE AMATEUR BAND ANTENNA

Unfortunately this isn't an article that will tell you how to construct or even where to buy such an antenna t s the story of a group of Dutch amateurs who, for a short period, were able to go on the air with perhaps the biggest antenna array ever used to produce strictly amateur signals

The occasion was the opening of Radio Nederlands new transmitter site at Flevoland in northern Holland For thirty six hours over the weekend of the 16/17 of February two amateur stations were set up n the transmitter hall and connected to the antennas of the new complex They then proceeded to work the world on 80, 40 and 20 metres using the special ca of PA6FLD

The highlight of the operation however was when the proceedings were broadcast ive over the Media Network programme of Radio Nederlands This s compered by Jonathon Marks and devoted to short wave listening and related sub,ects

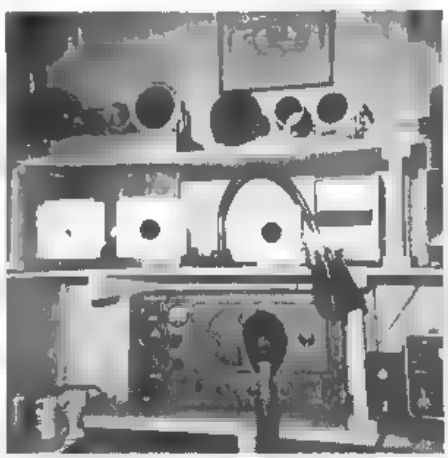
In Melbourne, Radio Australia s Talkback programme propagation expert Mike Bird and myself were wa t ng for the band to open to contact them At 0830 UTC with half the world calling we got through on 7 068 MHz with S9 signals both ways

While in contact we had a receiver runn ng on the 9 MHz transmission of Radio Nederlands and so were able to hear ourselves com ng back Qu te an experience. The ent re proceed ngs were recorded and excerpts later used in the Talkback programme on Radio Australia

Gear in use at Flevo was two FT-102 FL2100Z combinations feeding the big broadcast arrays with something like 20 dB gain plus optimum radiation angle.

Special QSL cards are available to those who worked PA6FLD and also to short wave listeners who heard their transmissions

Ron Fisher VK3OM
AR



Some historic memorabilia courtesy of John Gazard VK5JG. Please turn the page for an interesting article of the early techniques of amateur radio.

THE TECHNICAL SIDE OF EARLY AMATEUR RADIO

John Gazard VK5JG.
2 Corbin Road, Medindie Gardens, SA, 5081

To generate a radio signal it is necessary to make a high frequency alternating current flow in an aerial wire. The early wireless experimenters had no knowledge of electronics, but found three ways to do this. They were:

1 *The high frequency alternator which was a large, complicated and expensive machine suitable only for the lowest frequencies but capable of high power output.*
2 *The Poulsen arc which depended on high frequency variations in an electric arc current between copper and carbon electrodes. This was a cheaper machine than the alternator but was still complicated, and it was necessary to water cool the copper electrode.*
3 *The spark system in which a spark discharge shocked an aerial circuit into oscillation. This was a very simple and cheap method and could be easily constructed by an amateur, and consequently it was the method used by the first radio amateurs.*

In its simplest form the spark transmitter consisted of a spark coil with its spark gap in series with the aerial and earth, and the receiver had a crystal detector and headphones in series with the aerial and earth. This simple form depended on the length of the aerial to fix its frequency, but its signals covered a very wide band and had a range measured in yards rather than miles.

The Model T Ford car used four trembler type spark coils in its ignition system and many amateurs started out with one of these which were generally available at a low price.

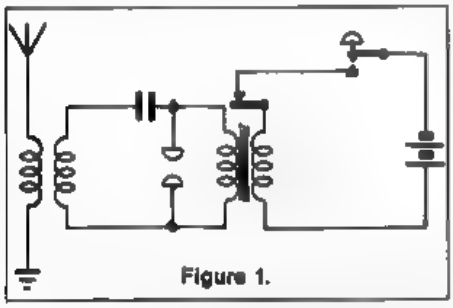


Figure 1.

An improved form of transmitter, the circuit of which is shown in Figure 1 was used by most amateurs. It operated as follows. When the primary of the spark coil was interrupted a current flowed in the secondary and the capacitor C was charged up until the voltage was sufficient to cause a discharge across the spark gap. This spark discharge caused a spurt of current which set oscillating currents flowing at the resonant frequency of the circuit. These currents died away (were damped) until the next spark arrived when they recommenced. The resulting wave form was as shown in Figure 2 and was known as a damped wave.

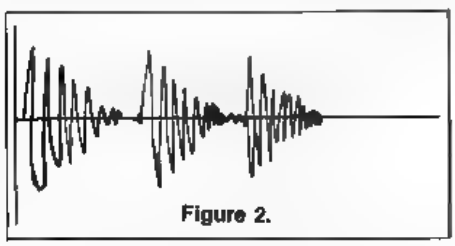


Figure 2.

The receiving circuit used was as shown in Figure 3. This also was simple and easy to construct.

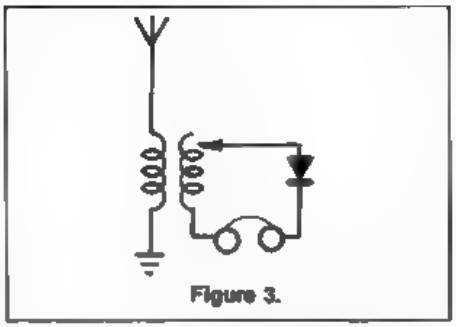


Figure 3.

The spark transmitter was not efficient as regards output compared with input and its signals spread over a wide band. The crystal receiver was not sensitive and its selectivity was poor. For example, in the early twenties the ship to shore spark stations on 500 kHz could be heard all over the broadcast band on the crystal receivers used at that time.

There were minor improvements in spark transmission as time went on. Larger spark coils and then high voltage AC transformers were used for power input. A quenched spark was one improvement. With this the spark was cut off sharply by cooling the gap with a mass of copper. The same result was achieved by using rotary machines to open and close the gap.

Although the presence of the Heaviside layer had been known for some years, it was not until the twenties that its effect on radio signals was recognised, and consequently before then it was thought that the ground wave was the only useful signal emitted. As with the ground wave, higher frequencies are more rapidly attenuated by ground absorption frequencies above 1500 kHz were considered less than useful for commercial longer distance working, and amateurs were relegated to these frequencies.

About 1920 valves became available to amateurs. They were used in receivers. A typical receiver consisted of a regenerative detector transformer coupled to a triode amplifier as shown in Figure 4. This receiver had much greater sensitivity and selectivity than a crystal set. In transmitters valves were used as oscillators, either of the Hartley, Colpitts or tuned plate tuned grid type, and produced a continuous wave (CW) as compared with the damped wave of spark. A single keyed oscillator was loaded directly into the aerial. A commonly used circuit is shown in Figure 5.

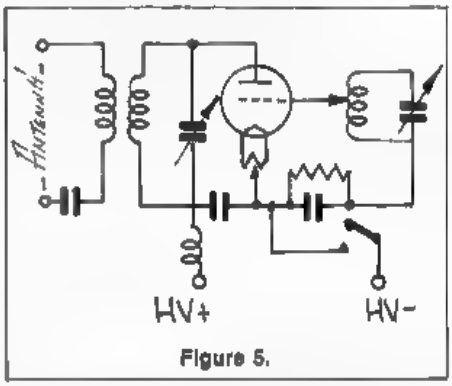


Figure 5.

A transmitter of this type would obviously be not very stable and would suffer from chirps, frequently drift and a poor note. However it was preferable to spark which it gradually replaced in amateur use.

Frequency measurement was made with a wave meter which was a calibrated tuned circuit which when brought near the transmitter tank coil, indicated resonance by a dip in the plate current or the lighting of a torch globe in the tuned circuit. However when the wave meter was brought near the tank coil it changed the oscillator frequency so that this was a doubtful method of measuring frequency.

Valve operation permitted amateurs to use higher frequencies, and it was soon discovered by them that these higher frequencies were suitable for long distance communication, and it was not long before the effect of the Heaviside layer in reflecting or refracting

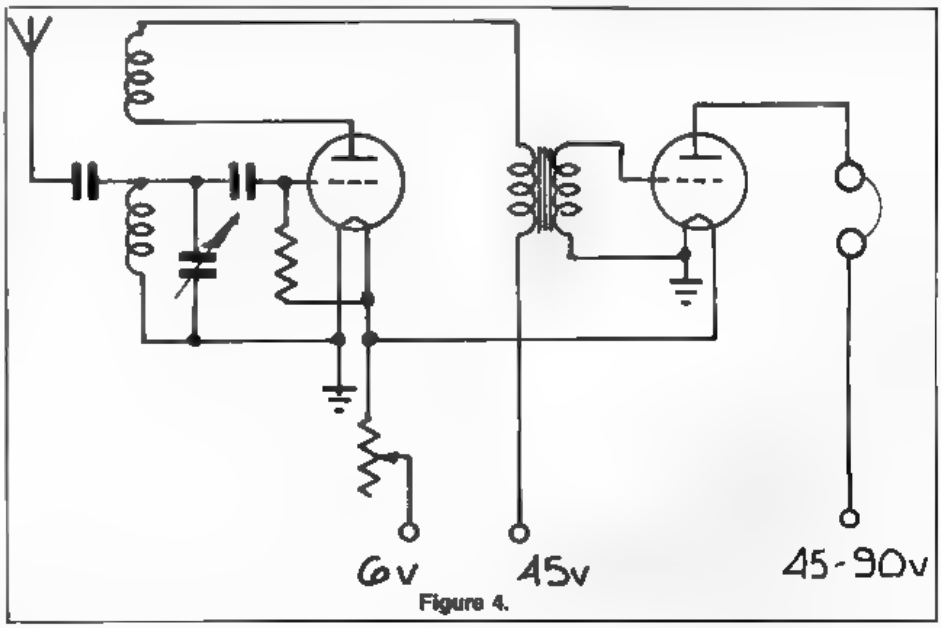


Figure 4.

radio signals was understood and the once despised high frequencies became much in demand by government and commercial interests for long distance work.

With the advent of these new users of the high frequency bands, amateurs were restricted to allocated bands by some countries and in 1924 in the USA which had the largest number of radio amateurs, these bands were 1.75-2.0, 3.5-4.0, 7.0-8.0, 14-16 and 55-60 MHz.

Valve operation (CW) continued in the 1920s with very little change in techniques. The science of electronics was only just developing and most newcomers to amateur radio had no knowledge of electronics and it was 'learning as you go' for most of them, and most of them built their own transmitters and receivers. Probably more effort was put into making long distance records as with the advent of high frequency working there were exciting new opportunities to make contact with all the countries of the world where amateurs operated.

In 1927 an International Radio Telegraph Conference was held in Washington. This was the first International Conference since the value of the higher frequencies had been discovered and the increasing demand for the use of these frequencies put great pressure on amateurs to retain their frequencies. In the end the amateur frequencies were fixed at 1.715-2.0, 3.5-4.0, 7.0-7.3, 14-14.4, 28.0-30.0, 55-60 MHz, but some countries reserved the right to reduce these allocations in their own country. These new bands and some new regulations were to come into force in 1929.

The amateur bands were thus considerably narrowed and there would be penalties for out of band operation and poor signal quality. The directors of the American Radio Relay League realised that the amateur operation would have to be improved to meet the new conditions and inaugurated a Technical Development Programme to cope with the situation. This programme was placed under the control of Ross Hull, a prominent Australian amateur who was visiting USA. He was assisted by a small staff, and his findings and recommendations appeared in QST from August to November 1928, and provide a clear picture of the technical side of amateur radio at that time. Hull was very critical of the quality of amateur transmitted signals. He said in August 1928 QST *'If the world's crystal controlled and oscillator-amplifier transmitters could be taken off the air tomorrow there would be about five truly constant frequency and unmodulated signals left'*. His tendency was to scrap self excited transmitters and break into new methods, probably crystal control, but as this would mean scrapping 90 percent of amateur transmitters he decided to investigate methods of improving existing equipment.

In his investigations and experiments Hull found that the frequency of self excited oscillators changed considerably with variation of the plate voltage and as plate supplies were often unfiltered in those days, the frequency varied with ripple voltage creating a wide band mushy signal. Obviously improvements in power supply were necessary, but Hull found that frequency change from voltage variation was much reduced if the coupling to the aerial circuit was loosened, and also if the ratio of capacity to inductance in the tank circuit of the oscillator was increased (high C), and he recommended a 500 pF tuning capacitor in the tank circuit. The high C increased RF current in the tank coil and therefore ¼ inch diameter copper tubing was required for the coils which were to be directly bolted to the capacitor frame terminals. With loose coupling, high C solid construction and careful adjustment of the feedback, Hull showed that a self excited oscillator coupled to an aerial circuit could produce a DC note. Hull did not propose any change in transmitter circuits which were Hartley, Colpitts or TPTG type. The TPTG type circuit remained as shown in Figure 5.

As for the frequency measurement, Hull found that the wave meter was not an accurate instrument, and apart from shifting the frequency of the oscillator when brought near it, its peak reading was not precise. He therefore proposed the use of a separate calibrated oscillator the frequency of which would be compared with the frequency of the transmitter. This developed into the heterodyne frequency meter-monitor which was in use until digital meters evolved.

Amateur operation in 1928 was almost wholly CW and the simple oscillating detector with one or two audio amplifiers was the popular receiver. Screen grid valves had just been introduced, but amateurs were using the triodes in all stages. Hull described three improved receivers. The first used a screen grid untuned RF stage ahead of a triode regenerative detector which was followed by a screen grid first audio amplifier with a tuned plate circuit resonant at 1000 cycles. The SG valve was used because its high impedance matched the impedance of the resonant plate circuit which used the secondary of a Ford spark coil with the core and primary removed, and was tuned by a selected fixed capacitor. The second audio stage was a triode. The circuit is shown in Figure 6.

The RF stage was untuned because an extra control and shielding would have been necessary if tuned, but it gave some gain and its main purpose was to isolate the oscillating detector from the aerial and thus prevent radiation and make regeneration control smoother. The tuned audio stage provided audio selectivity and enabled CW signals 200 Hz apart to be separated. This receiver was suitable for CW only.

The second receiver was similar to the first except that the RF stage was omitted and the third was a simple two valve receiver with a detector and one audio stage. These receivers had plug in coils for band changing, and were specially designed to have full dial band spread on each band. Like all receivers and transmitters at that time, they were built on wooden bases (bread boards).

In the late 1920s broadcast receiving valves designed for working from AC power were introduced and high power audio output valves became available. These valves were also suitable as RF output valves in amateur transmitters, and as they were produced in large quantities they were considerably cheaper than valves previously available. The power transformers, rectifiers and filters also used in these new AC operated broadcast receivers could be used for making amateur transmitters, and were likewise cheaply available for building amateur gear.

About 1926 quartz crystals for oscillators were first introduced in USA. They were expensive, being priced at the equivalent to 200-300 dollars at today's values, and were originally only cut for the lowest frequency amateur band. At first they were not much used by amateurs because they were too expensive and were considered too complicated as they required double stages. However in course of time they became cheaper and better electronic knowledge reduced the supposed complication, and amateurs began to use them. By 1935 they had mainly replaced self excited oscillators. The 1935 ARRL Handbook gave construction details for crystal controlled transmitters only.

With crystal controlled oscillators good quality phone transmission was possible. In the early thirties class B audio amplification was introduced, and shortly after receiving valve beam power amplifiers became available. Before then, with only class A amplification and triode valves even low power modulators were expensive, but with class B and AB beam power amplifiers a relatively cheap modulator with up to 100 watts output was available and increasing numbers of amateurs built and operated phone transmitters in the thirties.

The regenerative 2 or 3 valve receiver continued to be used for many years. It was simple, cheap and easy to construct, and when used on CW it was possible to achieve remarkable results. One was described in the 1958 ARRL Handbook. It was usual for the newcomer intending to enter amateur radio to first build his simple regenerative receiver and use it to learn the code and has his first receiver after being licensed. About 1930 receivers were built with a screen grid tuned radio frequency stage in front of the regenerative detector. These were known as TRF receivers. The RF stage added to the sensitivity for phone reception and isolated the detector from the aerial, but provided little improved selectivity.

Elementary super heterodyne receivers had been described in QST in 1928 and were further developed into the thirties but their construction generally involving metalwork, and their adjustment were beyond the capability of most amateurs and very few were home-built at first. Later several manufacturers began making bandswitching superhet receivers of high performance and these became popular with amateurs who could afford them but others continued to use regenerative 2 valve and TRF receivers. The 1935 Handbook described 2 two valve receivers, 2 TRF and 3 superhet receivers. One superhet receiver had plug in coils and the other two used bandswitcher coil assemblies supplied as manufacturer's kits.

The thirties was a period of great development in amateur radio. In those years the amateur ranks were filled with young men learning the new science of electronics. In most countries radio component parts were readily available and amateurs developed and built their own equipment and were generally technically up with the state of the art. The thirties are often considered to have been the Golden Age of amateur radio.

AR

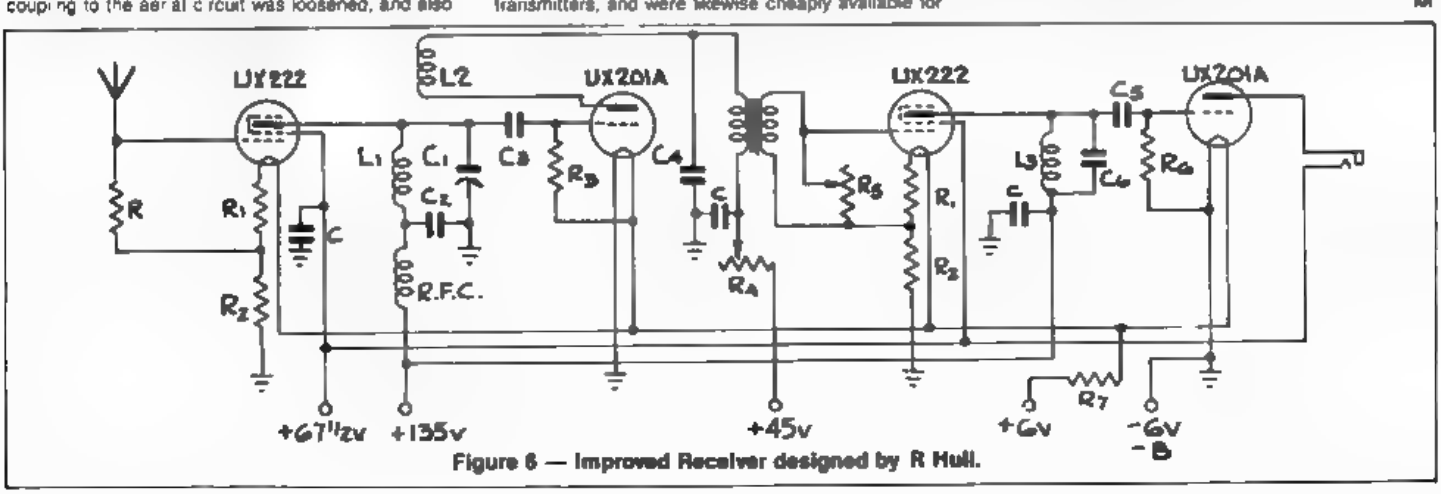


Figure 6 — Improved Receiver designed by R Hull.

A FORTY METRE ROTATABLE DIPOLE — ALMOST AS GOOD AS A BEAM

Bob Slutzkin VK3SK,
8 Lynedoch Avenue, East St Kilda, Vic. 3182

In his book, "HF Antennas for all Locations", Les Moxon G6XN writes quite a bit about compact antennas. On page 171, he points out that a 20 metre dipole may be shortened to 24 feet and end loaded by T pieces 6 to 7 feet in length "without any significant effect on any aspect of performance". He claims that a 17 feet dipole properly end loaded might have a reduced bandwidth but only about 1 dB less gain than a full dipole. He does not recommend anything shorter than that, but if shortening to 17 feet (which is a quarter wavelength) has such a small detrimental effect, I think a little more shortening might be acceptable if the circumstances demanded it.

Now the boom of a 204BA (20 metre beam) is 26 feet long which is about 1/5 wavelength at forty metres, and at each end of the boom there is a 20 metre element which would act as quite a large T piece to end load the boom. I figured out that if I could feed the boom of my 204BA on 40 metres it might work reasonably well. It is up 60 feet in the air and I would be able to rotate it to obtain the advantage of any directional properties that it might have.

Stan VK3TE also liked that idea, so he helped me in some experiments in trying to shunt feed the boom on 40 metres. We made up a number of bits and pieces for a gamma and omega match, a T match and a Y match, and spent quite a lot of time in unsuccessful attempts to feed 40 metres into that frustrating boom trying all four methods. I do not know exactly where we went wrong, but later on I shall tell how W8BEB finished up. He must have been doing his thing at about the same time as we were planning our exercise and he wrote it up in August 83-QST.

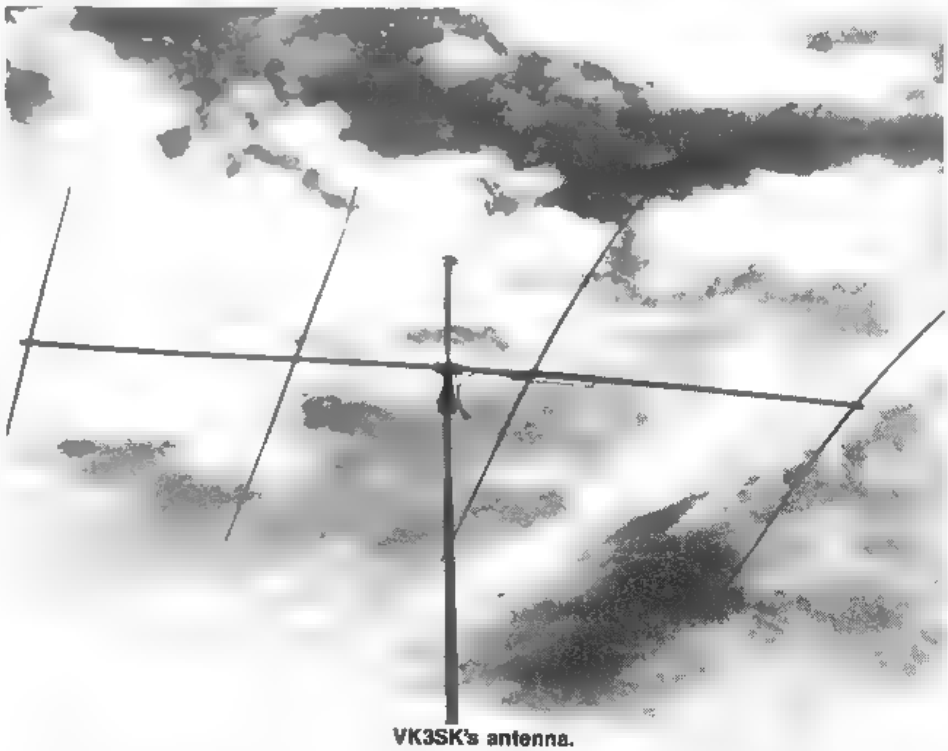
If shunt feeding would not work (so we thought at the time) perhaps we might have more success with series feeding. Now it would be almost impossible to insulate the boom in its centre so I decided to run a wire dipole from the top of the mounting pole which holds and rotates the beam. This pole protrudes about 4 feet above the centre of the beam so I attached a BN86 balun at the top of this pole and ran wires down from the balun to the two ends of the boom. I used short lengths of strong fibreglass pipe to insulate the end elements from the boom and the wires were connected to their centres and so I had a wire dipole which was end-loaded by huge T pieces. I had hoped that the proximity of the boom and the other two elements of the beam would not have any detrimental effect on the 40 metre antenna. I connected the 50 ohm coax from the balun to the rig via an antenna tuner and tried it out. Instant success! It worked well on 40, had an unexpectedly good front-to-side response (as was demonstrated when I rotated it).

It could work Ws and Gs, and even locals. There was only one problem. The SWR was a bit too high, and I would have preferred not to have to use an antenna tuner. Leaving out all the trial and error experiments, I established that the antenna resonated somewhere around 6 MHz, but best of all, a single condenser of the correct value placed in series with one of the dipole wires at the balun would not only resonate it in the centre of the 40 metre band but also keep the SWR below 2:1 over all the band except below 7.030 MHz (a part of the band I am a little ashamed to admit that I never use). Of course it could be tuned to cover the CW end to the detriment of the other end — the bandwidth was just a little too small.

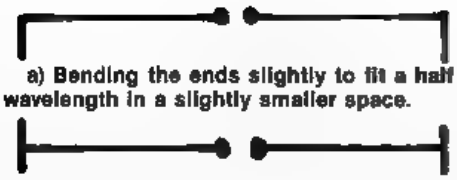
Does anyone want a 40 Metre ATU cheap?

That series condenser that I mentioned had to be the correct value. I determined the right value using a variable one, then substituted a huge encapsulated mica condenser of WW2 vintage. Then everything was tightened up and waterproofed, and the job was finished. (Stan used a variable condenser mounted inside a refrigerator box).

Well what about W8BEB? He used an 11'6" long gamma rod of 3/4" diameter spaced 4" centre to centre from the boom. It was attached 6" from the director end and fed 12" from the boom centre through a 400pF variable condenser. The secret might be the off-centre feeding, or perhaps Stan and I were not going about it the right way. Anyhow, when I read the QST article I had to try it out. I removed my wire dipole and short circuited across the insulators at the end of the boom. Then I reproduced his gamma system in a rather temporary fashion. By this time I had acquired a pair of selsyn motors which enabled me to tune the gamma capacitor from the shack. It took me a matter of thirty seconds to adjust for a perfect match at 7.150MHz, and I found that the W8BEB shunt-fed boom worked similarly to my wire dipole. I reverted to the original arrangement for two reasons. *1) It was my own idea and I am a little vain, and 2) all the bits and pieces were there to restore it to a mechanically sound and*



VK3SK's antenna.

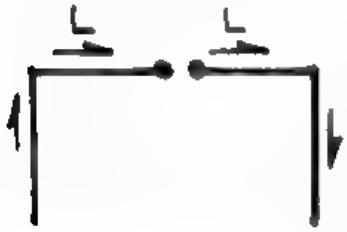


a) Bending the ends slightly to fit a half wavelength in a slightly smaller space.

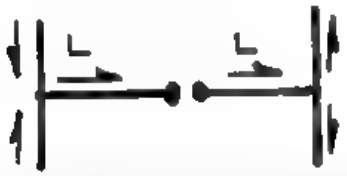
b) An alternative to a. The piece at the end is a T or T piece of about the same length as the L piece in a.

c) An extension to a.

d) An extension to b.



e) a further extension to a. The current in the L pieces which are now of more significant length are likely to cause some vertically polarised radiation off the ends of the dipole.



f) a further extension to b. The two currents in the tee piece halves would be half that in the L, and would tend to cancel radiation from the ends.

g) G6XN's method of using a loading coil before the tee pieces. This allows a shorter tee to be used and would further reduce end radiation.

Figure 1 — End loaded Dipoles.

weatherproof job, and I did not see the need to make up more hardware for a permanent gamma match.

If you want to adapt your large 20 metre beam, I would recommend W8BEB's method.

I have now been using the wire dipole for a few years, but mainly for local contacts. I don't enjoy the DX round tables on 40, but if ever I happen to join in during the openings to G or W, I find my antenna is nearly as good as a [illegible].

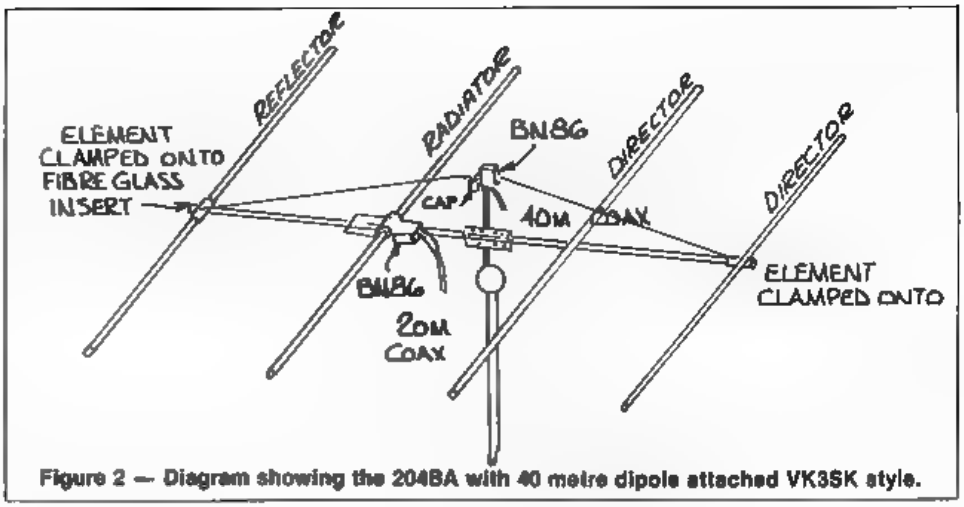


Figure 2 — Diagram showing the 204BA with 40 metre dipole attached VK3SK style.

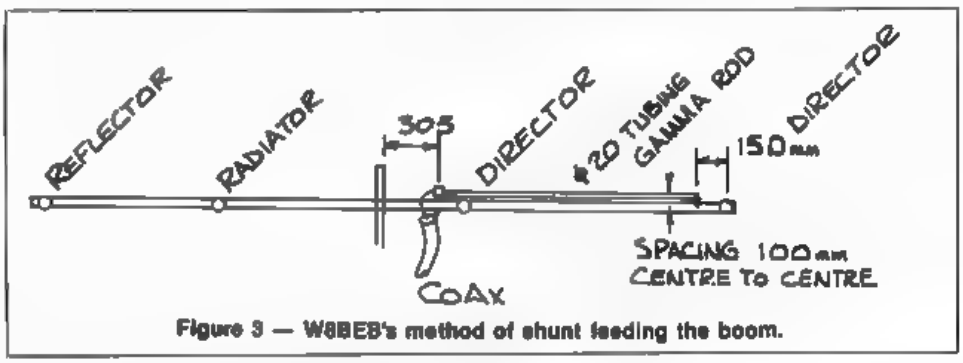


Figure 3 — W8BEB's method of shunt feeding the boom.

FOOTNOTE 1

For those who are not familiar with selsyns, they are a type of electric motor, with 5 terminals — 1, 2, 3, A and B. You need a pair of them and you connect all the corresponding terminals together (ie 1 to 1, 2 to 2 etc.) and the correct AC voltage across A and B. (My selsyns required 110 volts AC). The motors can be separated by as long a 5-core cable as you like. Then, when you turn the shaft of one of them, the shaft of the other follows. If you couple a variable condenser to the shaft of one, and a knob to the other, you can tune the condenser remotely. This is precisely what I did to tune the gamma condenser. The selsyns are now tucked away somewhere in my junk room complete with a motley cable and 110V tranny. They are available for loan to Moorabbin Radio Club members (or others) for a nominal fee to the club.

APPENDIX

End Loading a Dipole

The simplest method of end loading a dipole is simply to bend the ends over, which is quite a common practice where there is not quite enough space for a half wave dipole. When you do this you will usually find that you have shifted the resonant frequency a little. The bent pieces radiate a little off the end, but very little if the bent or "L" piece is small. But you could shorten the dipole by quite a lot and use a large L piece at each end, (eg a quarter wave flat top with two L pieces about 1/8 wave long, like half a quad element). There would be quite a bit of radiation off the ends from such an arrangement, and if the L pieces are vertical, the end radiation would be vertically polarised. If instead of L pieces they were T pieces, approximately the same length of wire would be needed, but the behaviour of the device would be a little different. There is a current entering the T piece and it divides into two equal currents which would flow away from each other and so be out of phase with each other. The radiation from each half of the T would be reduced by 6 dB (because

of the reduction of current) but the radiations would tend to be self cancelling.

Therefore we should expect a T loaded shortened dipole to be better than the L loaded device. Les Moxom likes a loading coil in between the dipole end and the T, and of course the T would then be shorter. I believe that long T pieces are OK when the circumstances permit. Figure 1 shows the development of end loaded dipoles.

AR

URGENT!!!!!!!

Please let us know of clubs and schools etc starting theory classes. Where, when, how much and whom to contact.

Contact Brenda Edmonds VK3KT

The following is an historical article concerning WICEN participation in Cyclone Tracy, Darwin 1974. The article has been written from information, tape recordings and reports supplied by many of the amateur radio operators who participated. A considerable amount of research has gone into the article and most of the facts stated have been, where possible, checked for accuracy. In the general description of events in Darwin, times are expressed as local am, whilst times relating to WICEN are date time group with the UTC suffix Z.

THE CHRISTMAS OF '74

WICEN AND THE CITY OF DARWIN AFTER CYCLONE 'TRACY'

Ted Gabriel VK4YG
Box 245, Ravenshoe, Qld 4872

In Northern Australia tropical cyclones form in the summer months over the Coral and Arafura Seas and these revolving wind storms can affect the coastline from Brisbane around the 'top end' and down to Geraldton.

Cyclone 'Tracy' began as a weak tropical low some 700 km north-east of Darwin on the 20th December. The Bureau of Meteorology received satellite photographs and issued the first cyclone alert on the 21st December.

Three weeks previously cyclone 'Selma' had also approached out of the Arafura Sea but after passing over Bathurst Island veered away to the north.

In the city of Darwin on Christmas Eve 1974, the residents, with an air of complacency were preparing for the season's festivities and parties were in full swing in spite of the oppressive humidity which is usual at this time of the year.

During the evening cyclone warnings were being issued on radio and TV. As the cyclone approached Point Charles, 24 kms to the west, it hovered momentarily and then headed for the city, the wind speed increased and around midnight the destruction of the city began.

At 3 am on Christmas Day the anemometer at the airport registered a wind gust of 217 km/Hr and was then damaged, some gusts were estimated to have reached 250 km/Hr.

The eye of the cyclone passed over at 4 am, there was a short lull then the fury recommenced from the opposite direction further completing the destruction.

Torrential rain added to the hardships of the survivors as they huddled in the wreckage of their homes or in motor vehicles waiting for the shrieking wind to abate.

At dawn the 45,000 residents looked out at a ruined city, a city without power communications, water or sanitation, a city in which in just a few furious hours some 50 people died and hundreds were injured.

This was Darwin's Christmas of '74.

WICEN in North Queensland has always been aware of the severity of tropical cyclones and had formed its operational plans accordingly the most important part of which is to follow cyclone track plotting and prepare emergency networks before the event.

So, that while shocked by the news early the next morning, Cairns WICEN operators commenced a listening watch on 14MHz for any signals from the stricken city.

At 242300Z — the writer started monitoring the WICEN calling frequency of 14.100 MHz while John Roberts VK4TL, agreed to search the band. Meanwhile other Cairns WICEN operators were alerted on the VHF networks.

Eventually at about 250005Z John's attention was drawn to a 'dogpile' which had developed on 14.175 MHz, the cause of this being the first amateur signals from the ruins of Darwin.

Bob Hooper VK8RR, Manager of the Overseas Telecommunications Commission's transmitter site, which included VID, Darwin Shipping Radio, was confronted at first light with a tangled mess of bent masts and antennae and with ships at sea in the cyclone area.

Photograph by Owen Marshall VK8OM

Darwin Community College after Tracy. Slim VK8JT operated from the building on the left.

Bob extracted his car from under the wreckage of his house, screwed in an aerial whip, and went on air in order to get the information to OTC headquarters in Sydney. However, the moment he was heard, he was besieged, quite understandably, by amateurs who were anxious for news of relatives and friends in Darwin.

Bob patiently explained that there were no telephones working, he could not drive around enquiring because of blocked roads and his main request was for urgent contact with OTC.

Some amateurs phoned local OTC stations but no definite instructions were forthcoming until Cairns WICEN managed to penetrate the QRM and make contact with him.

John VK4TL, phoned the Cairns OTC Manager, Keith Parker VK4VI and asked him to come up on the frequency, however, when he did the interference was building up with persistent breakers interjecting and blocking the contact.

At 250115Z, the writer as WICEN co-ordinator for North Queensland activated a WICEN emergency channel on 14.175 MHz for the purpose of urgent traffic between Darwin, Cairns and Sydney for the OTC.

This was the start of the WICEN National Net for Darwin which was to last for seven days and would involve hundreds of amateurs in cities and towns throughout the country hundreds of messages were handled from urgent relief traffic to whereabouts and welfare messages concerning evacuees 25 000 of whom were airlifted south in the largest operation ever undertaken in Australia.

Once the net control was established and order restored the contact between VK8RR and VK4VI continued and shortly instructions were received from Sydney for Bob to take over the radio installation in the MV 'NYANDA' in Darwin harbour and set it up as VID2.

Bob then closed down to carry out his duties and the WICEN group continued a listening watch until 250201Z when Owen Marshall VK8OM, mine manager at Koongarra came on to report weather and site status and also that his single engined aircraft was serviceable.

Photograph by the Sydney Morning Herald

An injured mother and child await evacuation.

At 250430Z 'Slim' Jones VK8JT was heard with a weak signal from Darwin.

'Slim' and his wife had been sheltering under their high set house and escaped injury, however when he found his radio gear among the wreckage it was useless because of water damage.

'Slim' then went to the Community College at Casaurina to seek shelter and there met Garry VK2BNN/8 and XYL Wendy VK2BYL/8. Their Hallicrafters transceiver was dried out with the aid of a hair dryer and after putting up an aerial they managed to put out a signal. The college had 240V AC from a gen-set.

Slim checked into the net and then sent a message to the Darwin Police Station, that communications via WICEN were available and shortly the National Net commenced handling primary traffic.

Later in the afternoon as more official messages were being directed to Canberra and Melbourne WICEN COMCEN was set up at Police Headquarters, D24 in Melbourne and net control was handed over to Ken VK3AH by Ted VK4YG.

Conditions on 14MHz were variable and Cairns WICEN had to relay traffic between Darwin and Melbourne as well as assuming local area control for outlying settlements in the Northern Territory and North Western Australia.

As the network expanded, information and relay stations were set up in various centres, Basil VK6NA at remote Kalumburu Mission, Craig VK8CW and VK8IG in Alice Springs, Terry VK2BTS/4 (now VK4AAT) and Owen VK4OV at Mt Isa plus scores of others, all did excellent work in traffic handling in a fine example of amateur radio teamwork.

Late in the evening official traffic ceased and 'Slim' closed down for a well earned rest and WICEN went to listening watch.

Day two commenced early with official message handling and relay between Darwin, Cairns and Melbourne.

Contact was made with Keith VK8KG at Gove which had no communications since its radio base at East Point had been destroyed. Owen VK8OM at Koongarra also checked in and traffic for these centres was handled by Cairns WICEN.

During the day Cairns WICEN controller VK4YG was authorised to accept official traffic from NDOC Canberra via VK2ADA for onward transmission to VK8JT and NDOC Darwin headquarters.

Major General Alan Stretton, the newly appointed head of the National Disasters Organisation who had been flown to Darwin by the RAAF to assume supreme command of relief operations, stated in his book, "FURIOUS DAYS" that the first major problem encountered was the almost total lack of communications, not only within the disaster area but to centres outside.

This was the situation for several days and explains why WICEN had to handle so much official traffic since other available channels were overloaded or unreliable.

Some 60 percent of houses were destroyed or severely damaged and for this reason there was very little amateur equipment in a serviceable condition, furthermore as Ray Williams VK2ARW, Inspector in charge of the NSW Police contingent reported later, most residents were in a state of shock after their terrifying ordeal.

On the 26th December, Owen VK8OM at Koongarra, 120 nautical miles east of Darwin, was becoming anxious about the welfare of his company staff in that city.

He drove to the airstrip and tried to obtain flight clearance from Darwin Air Traffic Control by HF radio from his aircraft. Darwin did not reply but Katherine ATC eventually informed him that clearance was not available.

The next day (27th) through the net Owen heard that Slim VK8JT, was having trouble with his transceiver, so he offered to fly in an FT75 rig.

Flight clearance was arranged by NDO and after packing the rig plus spares aboard his single engined Comanche 250, Owen took off for Darwin at 0147Z. When he arrived he had to orbit the city while a huge US Starlifter freighter landed as while he was flying over the northern suburbs he was able to see the tremendous damage from the air. After landing he delivered the FT75 to the Darwin Community College where he found Slim to be operating under difficult conditions as heavy rain was still falling and due to roof damage everything was wet in the building.

Owen then saw to the welfare of his staff and flew back to Koongarra where he reported the conditions in Darwin to WICEN COMCEN in Melbourne.

On the 28th, Owen heard that Slim was having trouble with the portable generator at the college. A 1.5 kVA unit was offered from Koongarra, and accepted, however flight clearance was not available due to heavy traffic in and out of Darwin so this unit was delivered by a 4WD vehicle driven by Chris Pedersen, the senior geologist at the mine, who got through safely in spite of flooded creeks and boggy roads.

Photograph by the Sydney Morning Herald

Darwin — a city in ruins.

Little known incidents like these and the other qualifications of many amateurs all contributed to keeping the vital Darwin WICEN network operating successfully.

Another rig was received by Slim VK8JT from Arie Blas VK2AVA. When he learnt that Slim was having trouble with the transceiver he was using, Arie rushed a new rig to RAAF Richmond whence it was flown to Darwin in order to keep the vital link open, two amateurs in Adelaide were standing by with a complete portable station including a gen set but permission was not granted for them to go to Darwin.

On day three an officer of the Victorian Radio Branch ordered the closure of the WICEN net, apparently unaware of the communication situation and of directives issued by NDOC. Amateurs operating the net sent a telegram to the Prime Minister and the Postmaster General and the close down order was then revoked.

Permission was given for WICEN to handle public telegram traffic concerning the whereabouts and welfare of evacuees, this added to the constant flow of official traffic so that more amateurs in all states were called in to assist. Propagation conditions were variable due to a sunspot minima period and a considerable amount of message relaying was necessary.

The message logs for Days three, four and five listed the following traffic:

NDOC traffic and replies.

Police messages.

Aircraft movements, RAAF and Civil-Flight planning, route weather forecasts, load details.

Salvation Army — re food airlifts.

Department of Social Security.

Whereabouts and welfare of evacuees — Telegrams and queries.

Weather reports and synoptics.

During this period enquiries were received from Pom YB0NQ/9 and Gene YB8ABT at Tembagapura in West Irian concerning the Fokker F27 aircraft (medical evacuation) belonging to Freeport Indonesia which was on the ground at Darwin airport during the cyclone. Since their radio base at Darwin had also been destroyed traffic was taken over on an official basis by Ray VK4HE, the Radio Inspector at Townsville.

The efficient manner in which this type of traffic was handled clearly demonstrated the ability of WICEN to integrate with other emergency services having a similar communications system.

During Day five, 29/12/74, the WICEN COMCEN in Melbourne was closed down on instructions from the Victorian Radio Branch.

The WIA received a congratulatory message from the National Disasters Organisation, praising in particular the devotion to duty of 'Slim' Jones VK8JT, and all net controllers and operators.

North Queensland WICEN on instructions from NDOC Canberra continued in a combined WICEN/NDOSES operation for Darwin, Gove and Koongarra until all communication circuits were finally restored on the 31st December 1974.

The WICEN National net for Darwin closed down at 310825Z, the North Queensland group had been operating for a period of seven days with an on air time exceeding 85 hours.

So ended the largest emergency communications operation ever undertaken by the Wireless Institute of Australia in a major disaster situation, however there was another important facet to this operation:

Major General Stretton stated in reply to a controversial instruction from Canberra.

"The only commodity we deal in here is human beings."

People — that was what the National Net for Darwin was all about. People in distress — people in need of communication with their loved ones.

The Wireless Institute's Civil Emergency Network was able to provide that communication.

REFERENCES AND ACKNOWLEDGMENTS:

"FURIOUS DAYS" ISBN0002114486 Collins

"SOLDIER IN A STORM" ISBN0002218406 Collins

Author ALAN STRETTON

"CYCLONE!" Christmas in Darwin 1974 (John Sands Pty.)

A "Sydney Morning Herald" publication

LIST OF EVENTS: Darwin Disaster, WICEN Network
A report to Federal Executive WIA 4/1/75
by Ted Gabriel VK4YG — WICEN Co-ordinator
Nth Qld.

GENERAL REPORT: To WIA: Darwin WICEN Net. VK4YG 15/1/75
[illegible]

INFORMATION SUPPLIED BY: Slim Jones VK8JT (VK8ATJ)
[illegible]

TAPE RECORDINGS: Peter Hanlon VK4PT (and transcripts)
Roger & Anne Davis VK4ARR & VK4AYL
[illegible]

TYPING — by Anne Duncan VK4ALE

Herbert Schwartz VK3DHI/K2LVU
505 West Broadway, New York, NY, 10012

MORE ABOUT TESLA

Mr Mowat's article, "Forgotten Genius" in Amateur Radio for March 1985 reminded the author of his own personal experience with Nicola Tesla, recounted here with nostalgic delight.

It took place during the Stateside 1932-1933 academic year when I was in my final year at high school. I had won a prize (of $10, which I squandered on an official school sweater and a pair of 'saddle' shoes) in the last previous American Institute School Science Fair, and I was intent upon a project that I hoped would earn me even greater distinction in the next one.

I was building a "million-volt" electrical oscillation transformer, a Tesla Coil, in the school's Physics Department workshop, using begged, borrowed and scrounged materials, and sturdily constructed device into which I poured much effort, time and the resources of my long-suffering friends. When, at last it was finished to the point at which I could put it to the test I did so, and although my rotary spark-gap snarled merrily as it arced and produced lots of ozone, nothing else resulted; no lightning bolts, no corona, not even a glow on the copper toilet-tank ball-float that was serving as a business-end terminal of my secondary. *Utter failure.*

I went over the system bit by bit for days and couldn't pin down the fault. I checked and rechecked every component and rebuilt what I could, to no avail. In desperation, I finally decided to consult Mr Tesla himself. Important people were much more readily accessible then, and this very popular and highly respected New Yorker was no exception; it was well known that he fed the pigeons every morning on the steps in front of the main Public Library. Since it was also generally known that he did not suffer fools gladly, especially when they interrupted his pigeon-feeding, I decided to seek him out "at home" and went about doing so the very next available Saturday morning. It was quite an adventure.

Nicola Tesla was living in the Hotel Governor Clinton (after having been put out of the St Regis for keeping pigeons in his rooms) at that time, and when I got there I had no difficulty at the front desk because Mr Tesla preferred to send and receive things by messenger, and boys with burdens were always turning up asking for him. I was quickly given the location of his room and the fact that he was in it, and made my way to it. I knocked on his door persistently until it was snatched open by a very much irritated, elongated (he was at least six feet tall (1.8 metres)) scarecrow-like man who gave me to understand (in a surprisingly high-pitched voice) exactly how he felt about being torn away from an important task by a rude creature who was "barely out of knee-pants" (boys in New York wore pants that buckled just below the knee until they were wage-earners or high school seniors, in those days). When he had to pause to catch his breath I blurted out my reason for having done so, pointed out that since it was his invention it was also his responsibility to do something about my failure with it. I shall never know whether it was because of the audacity of my stand, or my naivete in pursuing it, or because he was at heart a very generously sympathetic person, but he invited me in.

He very carefully, examined the portfolio-full of notes, drawings and snapshots that I'd brought with me, questioned me closely about what I had done in constructing and testing the device, concluded that my troubles lay in the condenser (as even he called it then), and sent me away with precise instructions as to how to go about correcting the fault and as to how I was to report the results to him ("By telephone . . . not in person!"). I did as he asked, and my Tesla Coil came to life. And when I told him so, his reply was simply "Of course!"

However, I never won a prize with that Tesla Coil. In fact, I never got to enter it in that year's School Science Fair. Fine-tuning had produced such splendid results that I was able to work up a spectacular show (with an enormous and fiery "Jacob's Ladder"; illuminating light-globes held in the hand; a "hair-raising experience;" lightning bolts punching holes through bottles; and the like) presented in several successive school-assembly programmes to great (and heady) acclaim.


DAILY NEWS

17TH SCHOOL SCIENCE FAIR

YOU ARE INVITED TO SEE 40 OF THE BEST HIGH SCHOOL SCIENCE PROJECTS ON DISPLAY

MARCH 19-22 AT IBM GALLERY OF SCIENCE AND ART

A newspaper clipping from the New York Daily News — 20th March 1985 — referring to the 1985 School Science Fair. This is the same Fair, different year, that Herbert had hoped to enter his Tesla Coil.

But, I was unwittingly also interfering with radio reception for miles around, as I found out to my very great dismay from the field-agents of the then newly instituted Federal Communications Commission when they came to the school to find and dismember my wonderful machine. And I firmly believe to this day that I can claim the dubious distinction of having been among the very first persons who were ever singled out in this way by the FCC--thanks to Nicola Tesla!

Footnote: By coincidence, my K2LVU address is situated 75 metres (250 feet) south of the place where the Tesla Electrical Company's first laboratories were located until just ninety years ago (the six-storeyed labs burned to the ground one night in March of 1895).

Editor's Note: We thank Allan Doble VK3AMD for bringing the Previous article to the notice of K2LVU, and suggesting he write the above account as a sequel.

AR

HOME BANKING MOVES TO AUSTRALIA

Homelink, the electronic banking service developed in the United Kingdom and operated by British Telecom Prestel, the Bank of Scotland and the Nottingham Building Society, and now widely used throughout the country has been sold to the Commonwealth Bank of Australia and is now in use in several European countries.

The Commonwealth Bank, which has 1200 branches throughout the country and over eight million account customers, plans to establish home banking in Australia early in 1985.

In the UK transactions are carried out by customers in their homes using adaptors. Using these adaptors banking transactions can be carried out 24 hours a day throughout the year from home or office or anywhere there is a suitable terminal. They include checking current account, paying certain bills, transferring funds between accounts at any bank, and sending and receiving messages to and from the bank and the building society.

The system is accessed through Prestel, the viewdata system developed by British Telecom which allows subscribers using a domestic television set and an ordinary telephone line to access many thousands of pages of information including stock exchange quotations, commodity prices and company information as well as a wide range of other information such as travel and traffic news, news and sports results, weather reports and shopping guides. A mailbox system allows subscribers to communicate with each other instantly.

From Information Technology from Britain

AR

PROPAGATION STUDIES

John Mahagan WB4JHS would like to get in touch with DX stations who are willing to participate in a propagation study during the low portion of the sunspot cycle by listening for a CW beacon on 10, 21 and 28 MHz.

Amateurs interested in this project or requiring further information should write to John at PO Box 3282, Thomasville GA. 31799.

from World Radio, March 1985.

AR

MURPHY AND THE TOWER

Mal Le Maistre VK3KSA
2 Thornton Court Moorooibark, Vic 3138

Everyone that has a radio mast or tower, commercial or otherwise, thinks it will never happen to them, so they overlook certain precautions. Things like guying the top section when one is employed. It is the same old story . . . "If the winds are around and blowing, I don't wind up my tower" . . . If this sounds familiar, fellow amateur, read on . . .

NIGHTMARE OF REALITY

One fine summers day last year
Around Christmas and all that cheer
A tower in Lilydale was in the clear,
Til a gust of wind at full flight
Took the tower at full height
Now in dismay, an assorted heap of metal in view
For to insurance claim pursue.

Fortunately the insurance did come to the rescue and aid the expenses a little. After sorting out what could be salvaged, apart from all the antennae that were either flattened, bent or twisted out of shape, it soon became apparent there were three choices.

Break the bank and in the process annoy the XYL by using the money for THAT DREADED amateur radio hobby!

Build a new tower

Go without . . NO WAY . . . this could not be classed an option?

I then proceeded to price a new wind-up, tilt-over tower. The three towers priced were over $1000 installed, too dear, another alternative would have to be found!

Well! What about constructing one myself? Popular towers were studied, criticised and good and bad points noted. I then located a set of computations and altered the design to rectify and comply with the said notes. With such alterations it was felt prudent to ask an engineer to re-write the specifications. This was done at a very moderate cost.

Material was then priced and amazingly everything would be well under $500, so it was full steam ahead !!

Three lengths of 33.7 mm OD black pipe, four lengths of 25.4 and one length of 19.1 mm along with nine plates 75 x 5 x 265 mm and another nine of 75 x 5 x 372 mm, all precision cut and delivered and I had the basic frame of both sections and change from $100.

Then Murphy almost stepped in. For the lattice work, a quote was received for 58 cents per metre, pre-bent and delivered. Length, span and width were immediately worked out and a cheque and order despatched.

After a couple of days . . a phone call was received . . the office department had made a mistake. Thoughts flashed of Murphy standing complete with pitch fork in hand and a cheese-like grin. However as they had received a certified bank cheque for the goods they decided to stand by their quote. It was possible to breathe again. (The correct price should have been $2.20 per metre).

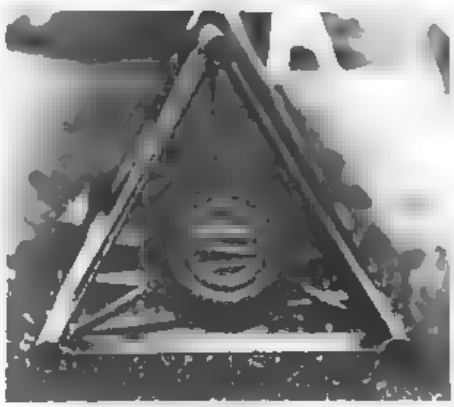
Now the real work of welding the tower began in earnest using various homemade jigs and braces to maintain straightness. The end result . . two sections, one slightly longer than the other but they looked great complete with their two coats of lull rust-red oxide.

The end result, when time permits, will be a 14 metres (45 feet) wind-up, tilt-over tower, housing a rotator inside the top section with a thrust bearing at the top. The tilt-over will be at 3.5 metres (12 feet) and the basic or down position height will be 8 metres (26 feet).

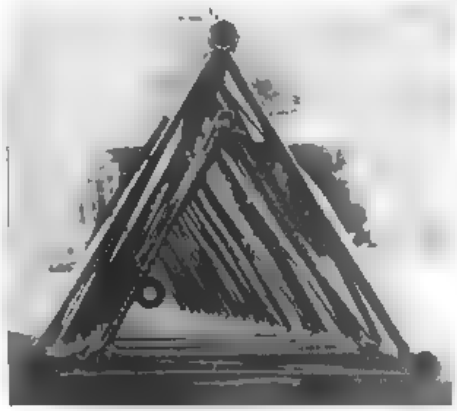
The clearance between both sections is about 6 mm (.25 inch). The ultimate of course would be one set of nylon bushes for runners to guide the tower down. The thrust bearing, which is actually a tractor differential bearing mounts on a 140 mm (5.5 inch) pipe flange mounted inside the top section at the end, carefully centred to the mast.

It is hoped to employ two 10:1 winches and various other anchors and pulleys.

The Sliding Joint.



The Bearing Mounting.



Looking down the centre of the tower in a horizontal position.

DIGITAL TELEVISION

Digital TV sets are expected to be readily available this year in the United States, Europe and Japan.

It was created by the ITT group a West German semiconductor maker Intermetall which developed a group of seven semiconductor chips to replace up to 500 components in a traditional analogue TV set.

ITT started marketing the world's first digital set in West Germany in 1983 and it was recently introduced in Britain.

The ITT is also selling its chip set to most of the world's TV makers including General Electric and Sony.

Some manufacturers promise enhancements by adding their own specialised chips to ITT's original.

Viewers can expect various models giving the ability to freeze frames, zoom in for close-ups and watch two channels at the same time by splitting the screen. The most visible difference between analogue and digital sets is picture quality.

Digital sets convert (digitise) the received signal, each signal fragment is analysed and interference components removed giving an on-screen picture more closely resembling the original image.

AR

CAN YOU HELP WITH JOTA?

The following guidelines have been produced by Tom DeLandre VK2PDT, and while written with VK2 in mind, the information applies anywhere in Australia. If YOU can help with JOTA, please do so . . . .

Ideally the initial preparations for JOTA should be commenced as early as May by the participating amateurs and scout/guide groups. Listed below are some thoughts on the necessary preparations on the part of the scout/guide groups, and the amateurs concerned

BY JUNE — The scout/guide group should
— Have a poster on the notice board publicising the activation of JOTA in their area
— Have advised the Group Council of the intended activity
— Have advised the Group Committee *(can they help?)*.
— Have programmed the Unit Council *(what help do they need?)*.

BY JULY — The participating amateur should have been invited to attend a meeting to explain to the youngsters the following —
— Basic radio communication
— The amateur service — it's history in the technica development of modern communication systems — it's rol in the t.me of emergency — activation of the necessary authorities by individual amateurs in reply to distress call — WICEN — as an aid to Civil Authorities in times of emergency.
— Propagation — youngsters are interested in how and why, so give them a simple but factual explanation
— Use of the microphone — make use of a tape recorder (preferably with a hand held mike) to have a mock transmission. On the replay the participants can assess their efforts and improve their technique, and at the same time overcome any "mike shyness".
— The "Q" code — It's use primarily as a form of abbreviation for use with CW, and the "Phonetic Alphabet" the sensible use of this as a means of clarification when and as needed — not something to make an unnecessary adjunct which slows down communication.
— Station Log (yes, it is necessary that you keep a log when operating as a "JOTA" station) — the Group Log (the group are required to return a log and report to their JOTA Co-ordinator) so your advice in this regard would be appreciated, however this is the responsibility of the group. "QSL" cards — they may wish to design their own. Obtain some from their Scout shop or if need be obtain some from VK2 Division of WIA — these cards would best be handled through the Scouting Organisation so it is essential that they indicate clearly the various units concerned — ie "1st Beecroft Scout Group"

For 1985, during the 75th Anniversary of the WIA, special QSL cards have been provided to the Scouting Organisation, by the WIA, for this years "Jamboree on the Air".
— Amateur "Slanguage" — explain but do not overdo this as you no doubt have seen the ridiculous results of this when overdone.
— Call signs — How the prefix indicates the various areas and countries
— Frequencies — How the various frequencies allow contact to be made at various times. The changes with time of day and the seasons — the effect of the solar flares, etc.
— "UTC" time has replaced "GMT" — how it works. Why it is used, particularly in International communication.

NOTE To help with the above why not have another look through the latest Call Book. There you will find an ideal source of information to pass on to the enquiring minds of these "amateurs" of the future. You don't need to be a lecturer — simply read to them some of the relevant details.

BY AUGUST — The site of the activation should be settled — group hall, camp-site — amateur "shack". Remember, if portable the pre-planning of portable antennas, power supply, equipment protection from the weather, and the security of the equipment.

Remind the participants to research the subjects which they intend to cover with their contact

BY SEPTEMBER — A roster should have been organised as to the times of operation and the number of participants — insist on only a small group being in the station area at any one time, and that those not actually "on air" maintain a quiet harmonious atmosphere.

If a portable location is planned, detail to the group what assistance you will need in the way of erection of antennas.

Can you handle all the participants on your own? If not seek assistance NOW — IMMEDIATELY Don't expect your fellow amateur to drop everything at the last moment. Ask for help NOW

Plan now to ensure that your equipment is not operated without your supervision. As well as the risk of damage to your equipment, the illegal operation of your equipment could bring discredit to you personally and to the "amateur" fraternity as a whole

OCTOBER — JOTA commences 0001 hrs local time on 19th October, 1985, and continues until 2359 hrs local time on 20th October 1985.

Double check all your preparations just prior to the event and we feel sure you will be rewarded with a most enjoyable weekend

Should you wish to participate with your group on a regular basis through the year joining in the Scout nets let us know and we will pass on the relevant information. These nets operate throughout the year and there are also the activation of scout stations at the various jamborees and camps both here and overseas.

PLEASE NOTE The 14th Australian Jamboree will be held at Cataract Scout Park near Appin from 30th December 1985, until 9th January 1986. Please assist in activating your local scout stations.

■■

CW COMMUNICATIONS ANNOUNCES hotCider

CW Communications has announced the forthcoming publication of hotCider, a collection of the best programmes ever submitted to **inCider,** the firm's monthly magazine for users of the Apple family of microcomputer systems. The programmes, which will be available on disk, will include applications for business, home management, education, graphics, and games

The first volume of hotCider, available in May 1985, will consist of nine selected programmes that have never been published. An easy-to-read documentation booklet will accompany the software.

A second volume of hotCider will be available in October 1985. Retail prices for both Volume I and Volume II of hotCider have been set at US$21.47, which includes postage and handling.

■■

73 MAGAZINE CELEBRATES 25th ANNIVERSARY

CW Communications/Peterborough, Inc. has announced three changes in its amateur-radio journal, **73,** as part of the publication's 25th anniversary celebration. Previously known as **73: Amateur Radio's Technical Journal,** the magazine's new title will be **73 For Radio Amateurs.**

In addition to its new title, which began with the March 1985, issue **73** will sport a new cover format which will feature full cover photography.

According to Jack Burnett, publisher of **73,** a third alteration will be a slight refocusing of the magazine's content. *"As this change commences," said Burnett, "**73**'s editorial content will be geared more toward the average amateur radio operator than the highly technical, engineering type of reader."*

■■

POWER CHECKS

Many amateur stations in the USA have recently been inspected by FCC personnel and concern is that the FCC might be preparing to change its amateur radio power limits.

The Field Operations Bureau had taken measurements at 172 amateur stations by 25th February. Objectives were to discover whether amateurs can reduce power, what levels most amateurs use, what effects a 50 percent reduction in power has on a QSO in progress and whether there was a general awareness and compliance with a US amateur rule which mandates use of the minimum power necessary for the communication in progress.

It is not known what the data will be used for but they may use it to persuade individual amateurs to temporarily use less power where there is a reported case of amateur interference to neighbours.

Many are anxiously awaiting the results.

Adapted from The ARRL Letter, Vol 4, No 6.

■■

SUPPORT THE ADVERTISERS WHO SUPPORT YOUR MAGAZINE

and let them know where you saw their advertisement.

SCRAMBLING WITH TWO METRES

Lionel Curling VK3NM
18 Lexington Street, Vermont, Vic 3133

Every fourteen days, madness bursts forth on 2 metres around Melbourne for about half-an-hour. This madness is known as the fortnightly 2 metre SSB Scramble. (Nothing to do with eggs).

A number of 2 m SSB stations meet every second Sunday night on 144 250 MHz to engage in a fierce competition which makes any HF contest really tame in comparison. The scramble band is 144.200-144.300 MHz with stations divided into country and city.

A city station is located within a 100 km radius from the Melbourne GPO.

HOW THE SCRAMBLE WORKS

Like any other contest the aim is to work as many stations as possible in a very limited time, usually only a few minutes each Scramble.

There are four Scrambles each time. Before the start of the first all participants check in to the controller on 144 250 MHz. He then starts the first session and all stations participating work each other, exchanging 59001, 59002 etc. After the four Scrambles are finished the controller then asks for total points from each station.

Point scores are as follows: city to city is worth one point, city to country is worth two and country to city three points. The latter is to encourage country stations to take part.

Each station is allocated points towards a prize/trophy at the end of the year. The winner receives four points, second receives three, third two points and all other stations receive one point. The winner also controls the next Scramble and then receives three points towards the trophy.

Similar to the VK3 Fox Hunts, prizes are donated by a trade house. In the past sponsors have been AR advertisers, Bail Electronic Services and Vicom, with the present sponsor being Eastern Electronic Services. Presentation of the trophy is at the December meeting of the WIA, Victorian Division.

The Two Metre Scramble is not a new activity, it has been around for many years, although the rules have been altered. The old 2 m AM Scrambles used to be of half an hours duration for one Scramble only. As most stations were crystal controlled it was necessary to call "CQ Scramble ... tuning band edge to point 5" (144.0-144.5). It was hard work to win.

During the 70s SSB stations started to appear on the scene and Scrambles faded from the picture for a short time but they eventually began again in their present form.

Two metre Scrambles are good practice for HF contests, conventions, etc. They also mean that the tunable part of 2 metres is activated at least once every fourteen days.

After the Scrambles conclusion many stations QSY for a chat.

Why not pop up on 144.250 MHz and see for yourself how much fun Scrambling is? Call in on 144 250 around 08.15 p.m. every second Sunday. Starting time is usually between 08.15 and 08.30 p.m.

Regulars taking part in the Scrambles are Rob VK3XQ, Laurie VK3YDE, Max VK3AUA and Lionel VK3NM.

HAPPY SCRAMBLING

AR

ETCHING CIRCUIT BOARDS

Roy Hartkopf VK3AOH
34 Toolangi Road, Alphington Vic 3078

Amateurs are supposed to be innovative and practical people but no reasonable person would expect them to home brew the equivalent of the fancy commercial equipment available today. On the other hand it is most disheartening to see the same old complicated primitive, expensive and inefficient so called practical ideas being trotted out year after year in various magazines. One can sympathise with an isolated enthusiastic beginner who thinks he has invented the wheel but for the technical staff of leading magazines to publish this kind of thing is another matter.

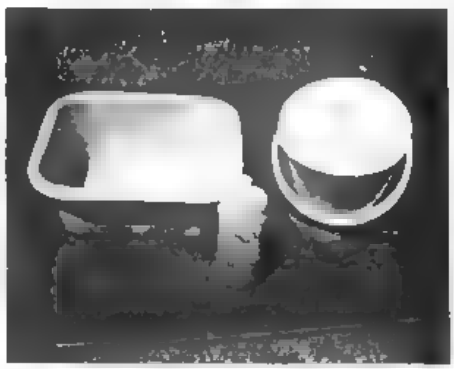
One example is the etching at home of printed circuit boards. How many beginners have been frightened off by heat lamps, motor driven eccentric cams, thermometers (see the hardy perennial in the ARRL handbooks from way back), converted goldfish tank equipment, oscillating solenoids and, as late as November 1984, a fancy "bubble etcher" in QST. It is rather ironic that the same issue contains some devastating comments on a "state of the art" automatic antenna matcher. What was that remark about motes and beams?

Anyway how does one etch circuit boards efficiently at home?

The illustration shows the complete equipment required. It costs all of three or four dollars at the local supermarket and in between times the basin can be used for washing socks and bathing the baby.

Dilute a concentrated solution of ferric chloride with about 50 percent water. Pour enough into the bucket TO BARELY COVER THE BOTTOM 1/16 to 1/8 inch is quite enough. Add about 5 ml (a tablespoonful) of hydrochloric acid if you wish. It seems to make the etchant a little more efficient but is not essential. Then half fill the basin with near boiling water. Put the circuit board, copper side up, in the bucket and float the bucket on the hot water at the same time giving the etchant a swirling motion, like one does with a gold panning dish, so that it washes continuously over the board. In about three minutes the board will be completely etched without any sign of undercutting. If it takes more than about five minutes it is time to replace the etchant. If you get any splashes from the etchant when you swirl it round you have put too much in the bucket. Tip some out and continue. When the board is etched wash it under an outside tap and drop it into the hot water for a couple of minutes. Dry it and rub it lightly with steel wool and coat it with a resin flux. It will solder perfectly and last indefinitely. Boards I etched ten years ago are still in perfect condition.

So if you have been deterred by all the complicated gadgetry which is supposed to be needed, buy a plastic basin and bucket and have a go. If you have very large boards, then fill a trough with the hot water and use the basin for the etchant. This requires a little more care but is equally effective. Double sided boards etch equally well provided they are not drowned in too much etchant. When you have finished put the lid on the bucket or cover it with a board and put it in a safe place and it will be immediately ready whenever needed.



The illustration shows the highly sophisticated technical equipment needed to etch any circuit board in 3 to 5 minutes. The task of half filling the basin with hot water should be within the abilities of any technically minded amateur. If in doubt consult the XYL.

ONLY YOU CAN TAKE HIS PLACE

We were saddened to learn of the death this week of one of our most valued members ... Someone Else.

Someone's passing creates a vacancy that will be difficult to fill. Else has been with the WIA since its beginning, (1910). He did far more than a normal person's share of the work. Whenever there was a job to do, a function to attend, orders to be filled or a meeting to cover, one name was on everyone's lips. "Let Someone Else do it". It was common knowledge that Someone Else was among the largest contributors of his time to the WIA whenever there was a need for volunteers, everyone just assumed Someone Else would volunteer. Someone Else was a wonderful person — sometimes appearing superhuman but a person can only do so much. Were the truth known, everybody expected too much of Someone Else.

Now Someone Else is gone! We wonder what we are going to do. Someone Else left a wonderful example to follow but who is going to do the things Someone Else did? When you are asked to help, remember ... **WE CAN'T DEPEND ON SOMEONE ELSE ANYMORE.**

Original Source Unknown.
Contributed by Tim Mills VK2ZTM

INDIAN AMATEURS IN EMERGENCY

Grace Dasan VU2AIG,
5B Versova Cross Road,
Off 4 Bungalow Road,
Andheri, Bombay 400058

BHOPAL, the world now knows this city which until 3rd December 1984, was known to very few people outside India. But thousands died to bring this city to world attention by the accidental leak of MIC gas from the multinational Union Carbide's fertiliser plant. The company began operation in India 50 years ago in a small way at first with battery cells and later diversified to become a major chemical company. The accident took place on the night of 2nd-3rd December 1984 and within a few hours the world came to know of this ghastly accident, in which over 3000 people died, many thousands were blinded, and many more, some say over 200,000, will continue to suffer the after effects of exposure to this deadly gas. To be sure, the early reports on the radio and television did not convey the magnitude of the disaster. It was only after a few days had elapsed, that the world realised the enormousness of the situation.

This was because Bhopal became a virtual ghost city in the first few hours of the tragedy as almost half of its population of 800,000 fled into the countryside to escape the lethal effects of the gas. As vital services and communication links were stretched to breaking point due to acute manpower shortage, amateurs stepped in to fill the breach.

On the 5th December, the third day of the tragedy, VU2RX, VU2AID and the writer conceived the idea and were responsible for the formation of the team that departed for Bhopal in the early hours of the 6th. It was finalised that the group should leave by car after ruling out transport by train due to the large consignment of equipment that they had with them.

Having very short notice VU2AID formed a small team of VU2EMJ and VU2NAX. This group was not aware of the conditions or situation they would face in Bhopal. With lack of rest or sleep but with true amateur spirit and determination to assist wherever they could help they drove all day and night to arrive in Bhopal on the morning of the 7th December, covering a distance of approximately 950 km over rough and dusty roads. Being unfamiliar with the town, they traced the QTH of VU2NB with great difficulty. At 12.30 pm on the 7th the team was welcomed by VU2NB and VU2SKN his XYL who were by then expecting their arrival due to prior information by VU2NYR when VU2NB had, the previous day reported on the air for the first time. VU2NB then invited them to stay in his house.

After a brief rest, the team learnt the magnitude of the tragedy and arranged for a meeting with the chief executive of Bhopal, to work out a plan to meet the civil administrations communication requirements. The commissioner of Bhopal welcomed the group and detailed his needs. The communication link needed were of the following nature: inter hospital centre, control police Hq, factory site, supply centre, missing persons' Bureau and the Commissioner's Office. To meet these requirements both HF and VHF equipment was deployed. The group from Bombay was assisted by five other amateurs of Bhopal: VU2PRO, VU2RUZ, VU2HEL, VU2ARK, VU2SKN and VU2NB. The demand for more stations was met by the provision of Mohan Dy Spt of Police and also by the arrival of four more amateurs with additional equipment from Bombay by train on the 10th December. The amateurs were VU2JAC, VU2HPR, VU2VSK and VU2MRX, all young college students. All had to work long hours but they completed the assignment to the satisfaction and admiration of the Civil Authorities.

After the gas leak the production at the factory was stopped and the factory shut down, leaving 40 tons of the lethal gas in the storage tanks. In order to make the city safe, the authorities thought it best to use up the stored gas by manufacturing pesticide. This operation was codenamed "OPERATION FAITH". When news got out of this operation, the residents started another exodus, despite the assurance of the Government that there was no danger involved. People left the city by every mode of transport, including by foot, for safer places. They travelled on the rooftops of trains and goods wagons, scooters, cars, bullockcarts, cycles in a never ending caravan, carrying with them their prized possessions, leaving the city once again reeling under the shortage of manpower. However the amateurs remained to maintain the much needed communication links.

After five days, Operation Faith was a success, and the amateurs got ready to wind up operations to return home, but the civil authorities requested they stay to assist in the distribution of food and civil supplies in the disorganised city. Later, the commissioner himself requested the amateurs stay and assist in monitoring the communications for the distribution programme, a request which the overworked and tired crew readily accepted.

The requirements of this communication was between the godowns, control centre, commissioner's office, ration shops, fairpriced shops and also mobile communication units to direct the transport to such points where supplies were needed. The work the Civil Authorities had planned for ten days was completed in four days due the assistance provided by the everwilling amateurs. Bhopal Operation came to an end on the evening of the 23rd December. Finally VU2AID and VU2JAC were on the road driving night and day to be with their families for Christmas. The members of the Bombay team had made their way home by train a few days earlier to catch-up with their studies, tests and examinations.

While the amateurs in Bhopal were busy handling the communications required by the Civil Authorities and also extending communication requirements to the other relief organisations, they were also helping to trace persons whose welfare was a cause of anxiety in other parts of India and in other countries. Airnet India maintained a continuous watch day and night. When propogation conditions were poor, stations relayed and handled the various traffic regarding the welfare of various persons, the residents of Bhopal. These enquiries were coming from all over India and overseas. This work was done by VU2RX, VU2XYL, VU2NYR, VU2CK, VU2TP, VU2PDN, a few AP stations, 8Q7AV and also by a few A4X stations with the writer controlling Airnet India for this purpose. Another golden chapter has been written by amateurs and it is now well established that amateurs will always come where and when they are needed.

Article by Grace Dasan VU2AIG who conceived the operation and assisted the Bhopal team by continuous watch on the AIRNET INDIA from BOMBAY, 1984. AR

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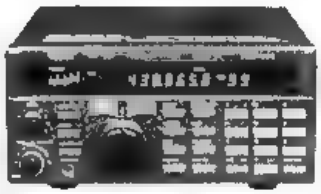

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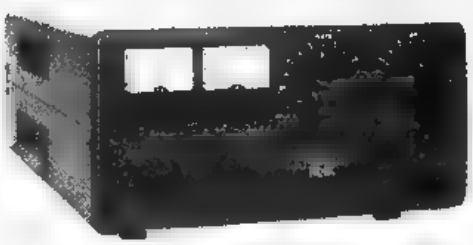

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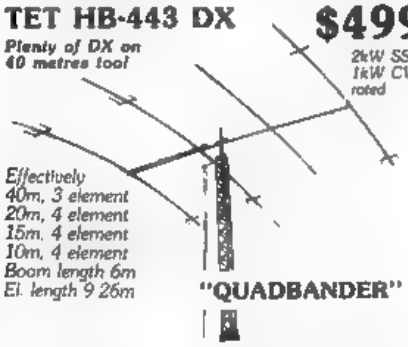

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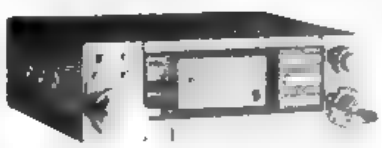

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A NOSTALGIC LOOK AT THE LIFE OF ROSS A HULL ex OA3JU 1902-1938

Ross Hull was one of Australia's most notable amateurs. Born in 1902 in Melbourne, Ross studied to become an architect. By 1922 Ross was deeply immersed into the amateur radio fraternity and was the first VK station to hear American signals. Each year the WIA holds a VHF contest in remembrance of his achievements. The following is a resume, taken from an editorial in QST, November 1938, of the life of Ross Hull.

Ross Hull.

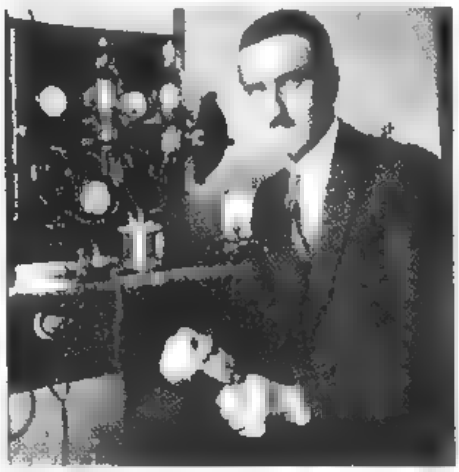
The brilliant career of Ross A Hull, editor of QST and The Radio Amateur's Handbook, came to an untimely end on the evening of 13th September 1938, when he was accidently electrocuted in his home in Vernon, Connecticut, whilst engaged in experiments on a television receiver.

Ross was a brilliant, ingenious and indefatigable amateur, possessed of a restless, inquiring mind, with a determination to outdo all others in everything he attempted. He was never satisfied with his accomplishments and always strived to better anything he had already achieved.

He was interested in many technical fields and although amateur radio was his greatest love, he was proficient in a variety of other interests. He was a brilliant pianist, with a great love of music, and played for many hours everyday. He was an artist of considerable ability in oils, water colours and crayon. He was an expert amateur photographer and his photographs graced many a QST cover. He was interested in astronomy and had built several reflecting telescopes. And model aircraft was a passion he carried on from early childhood.

During his latter years, together with another amateur, he built model planes large enough to carry radio apparatus for control in flight.

Ross, with so many interests, still found time for much reading and also to ski in winter and play golf in the summer. He was unmarried.



OA3JU at his station in Melbourne about 1924.

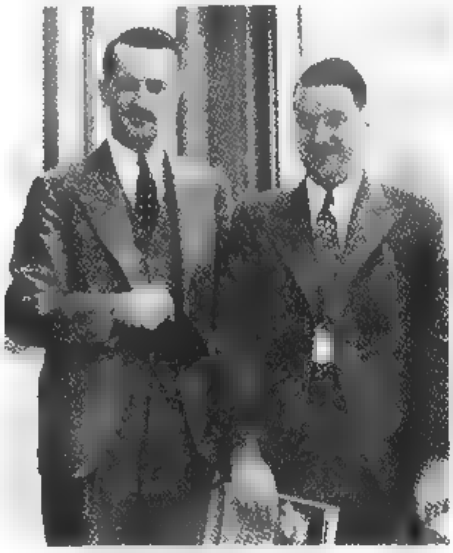
In 1926, as OA3JU and secretary of the WIA, Ross set off to visit ARRL headquarters on a study of American radio activity, particularly amateur radio. Upon arrival he encountered a vacancy in the junior position in QST's editorial department, technical information service. This was an admirable vantage point from which to see American amateur radio so he asked for and got the position.

He extended his stay and soon was promoted to an assistant technical editor's position.

In 1928, when a special technical development programme to devise new apparatus at headquarters required a director, Ross was the logical man to head the programme. Much new gear of his devising was introduced and his studies over the period revolutionised amateur radio techniques. He popularised "band spread" for amateur receivers and was responsible for the first serious use of the superheterodyne in amateur circles as the logical receiver for phone stations.

He produced the first practical apparatus employing the high-C circuit for self-excited oscillators, made the first presentations in amateur radio of 100 percent modulation and the use of linear RF amplifiers and first introduced the signal monitor.

Ross popularised the practice of putting valves upside down or at unusual angles to shorten leads and was largely responsible for the abandonment of bread-board construction in favour of a bent metal chassis. The apparatus he built was always beautifully constructed, mechanically rigid, with losses minimised to work at the greatest efficiency, whatever its purpose.



Ross and Galbraith Hull.

He returned to Australia in 1929 and became the technical editor of Wireless Weekly but he had been bitten by the radio bug in the USA and within eighteen months was back on the QST staff as associate editor. (He was succeeded as technical editor for Wireless Weekly by his brother Galbraith Hull).

Ross possessed an immense interest in UHF and pioneered simple apparatus for this field. He also encouraged the use of 56 MHz. By means of high-gain antennas he regularly communicated over distances in excess of 160 km on 5 metres. Over a period of several years he made recordings of distant UHF signals and correlated and analysed the vast quantities of data he acquired.

He became editor of The Radio Amateurs Handbook and jointly re-wrote the fourth issue.

Ross Hull and his model plane.

Ross was also greatly interested in television, particularly in the ultimate opportunities for its use in amateur radio and had an elaborate experimental set-up at his home. With his remarkable ability to scoop-up UHF signals, he was succeeding to receive NBC experimental transmissions from New York (a distance of approx 160 km) shortly before his death. He had also built an experimental TV transmitter.

It was the power supply for his TV receiver which caused his death. The receiver required a 6,000V plate supply for its large Kinescope. While only a few mA were required, small transformers had caused trouble through surface leakage and he had replaced them by a large 1.5kW, 4,400V pole transformer. The power supply was on a shelf under a table and the mains outlet was on a wall behind and immediately above the equipment. While wearing headphones connected to the converter and receiver and grounded on one side, he reached over the power supply to plug into the 120. As he withdrew his hand he came in contact with the HT lead to the rectifier plate, pulled it off, and fell so that the 4,400 V lead was contacting his body, with the phones providing the ground.

As it happened he had a dinner guest that evening, a doctor who was familiar with high voltages. Sensing trouble from the next room within thirty seconds after Ross had plugged in the power supply, the doctor ran to his aid, dragged him clear and administered artificial respiration. Two other doctors arrived in a short time and every effort was made by experts to revive him but to no avail — death was instantaneous.

There is an awful lesson in this for ALL radio amateurs everywhere. If a small transformer had been in use instead of the large one with the powerhouse behind it . . . if the power supply had been covered . . . if the plug had been somewhere else . . . if the line had been lightly fused . . . if he had not been wearing headphones . . . he was, himself the author of the warning against high voltages which appeared in the ARRL Handbook.

An enthusiastic skier.

In his passing, amateur radio lost one of its most valuable minds.

Compiled from information contained in QST, November 1938 by Bett McLachlan.

AR

HONOUR FOR OLD TIMER

On his recent visit to Queensland, the Federal President, David Wardlaw VK3ADW, together with Queensland Divisional President, John Aarsse VK4QA, had great pleasure in presenting the Annual VK4 Merit Badge to Alan Shawsmith VK4SS. David read the following citation to Alan honouring his achievements for the good of amateur radio over the years.

Alan's first interest in WIRELESS began in 1925 when Queensland's Broadcasting Station 4QG was built and put on air and he began building crystal sets. A neighbour, Len Greenhill VK4LE encouraged his interest in the hobby, allowing him to use his equipment. Alan sat for and passed the AOCP in August 1935 at the age of 17. He was allotted the call sign VK4SA and became an avid DXer largely using A1 mode, until the outbreak of WW2. In 1939 when all licenses were cancelled and rigs had to be dismantled. Post-war he was granted the call VK4SS. Some 50 000 QSOs later with 320+ countries tally, countless awards and many contest placings to his credit, he is still pounding brass.

Despite these personal achievements Alan feels his greatest contribution to the hobby has been through his journalism. He has written and had published many feature articles of merit on a wide range of subjects and quite a few humorous stories and sketches, both locally and in overseas countries ('73' QST' CQ' magazines to name a few). For a twelve year continuous period (late 1960 through 1970) he wrote the monthly DX Column for AR magazine and for a shorter period contributed to QTC' His greatest interest has always been in the historical side of AR — he has built up a considerable collection of early Morse keys and pre-war rigs (mostly self-constructed). Some of these have been loaned for Divisional and Club displays.

At present Alan VK4SS, on behalf of the Queensland Division of the Institute, is gathering material on VK4 OOTers of the thirties, many of whom are now SK. This information is being recorded in AR magazine. It is hoped that a booklet on the early history of the WIA in Queensland, with reference to these OOTers and the state of the art generally, will soon be published, and that it will be as well received by the amateur fraternity as his other articles on the early days of wireless.

Alan's greatest asset apart from his many children, is his wife Lovice. Lovice has always been a tower of strength to him by being his willing secretary and researcher. At present both Alan and Lovice are not always enjoying the best of health but their keenness and energy is undiminished.

AR

From left — Alan, David and John.

EQUIPMENT REVIEW

Evan Jarman VK3ANI
TECHNICAL EDITOR

DOCTOR DX

How do you play radio when you are not really playing radio? With Doctor DX.

Doctor DX is a memory cartridge module which, with a Commodore-C64, simulates the CQ Worldwide DX Contest. The cartridge plugs into the memory expansion port at the back of the microcomputer. The only other equipment required, as Doctor DX is a Morse code only simulator, is a Morse key. The key plugs into the RCA connector on the cartridge. That is all the hardware required.

The heart of the system is stored in the two 2764 EPROMs, the software. Doctor DX's programme simulates the rest of world during the CQ Worldwide DX Contest. It pretends to be the other station in an exchange which requires confirmation of RST and zone numbers. The other variables such as QSB, QRN and QRM are all combined in varying amounts to make the Doctor DX simulator so incredibly believable.

I tried a CQ TEST. Back came a ZS6 with 569. I gave him a 599, and, as soon as I confirmed, up came a score on the screen. The programme had also found my call sign and this too had been displayed. Calling CQ again netted a W6 and XE3, then a HM3 called me, something that had not happened for a long time. I was beginning to like this machine.

After clearing with two more stations that called me, I decided to tune around and pick out the DX. The frequency (call sign used) is based on the populations of amateur stations with a guarantee that there are 304 countries represented. Just tuning around I was able to work SM, ZL, G, SP, LZ, PR, LA, VU and the occasional American. It was totally absorbing; the adrenalin was going just as in a real contest.

To give an idea of the level of sophistication in the programme a contact with a OY3 is a good example. I was continually beaten by Europeans and decided to QSY. Moving down the band and then returning, all the stations were on the same frequency that I had previously heard them. The OY3 was eventually worked but only by increasing the output power and using a technique I call tail ending; dropping one's call in on the change over. I like the way one station seemed to be working another, especially when you knew that it was only the computer talking to itself.

The other bands were tried and both 15 and 10 metres worked well. Just listening to Doctor DX on 10 metres is enough to restore faith in the band. However on 160, 80 and 40 metres nothing was heard. Calling had the same effect. Further reading of the instruction manual was needed to find the answer. Doctor DX also takes diurnal variations of the ionosphere into account. Using the latitude and time it works out if the band should normally be open at that time of day.

By changing the time to local night time the lower bands opened and the top bands closed. Just another variable that the programme uses to make Doctor DX very realistic.

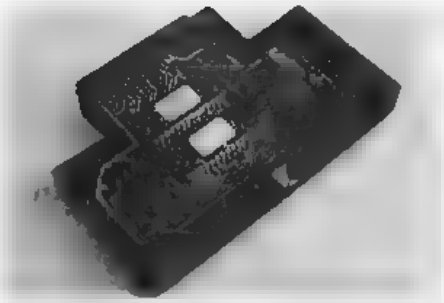
SETTING UP

After plugging the system together with the monitor screen shows a picture of a transceiver with the controls in use as well as the score broken up by band, country and zone.

Before starting, the programme needs to know your latitude, longitude, time (UTC) and the duration time; for those who really want to make a contest. Other variables such as output power, band, volume, filter, bandwidth and frequency can all be varied during a contest run. They are changed by pressing the keyboard button displayed on the screen. The exception being frequency which uses the function keys to the right of the keyboard. This allows for fast or slow change in frequency.

ON AIR

For me the best place to start in any DX work is 20 metres. Doctor DX conforms to the usual practice of the faster stations operating lower down the band so I moved up the band and started at 14.12MHz and heard nothing. Using the F3 and F5 keys to move around this spot showed that the band was active so



CONCLUSION

I was able to use Doctor DX twice and after each attempt I was able to work out how to improve my score. By deleting, all but the essential, high scores are possible, with high QSO rates. Doctor DX is certainly aimed at the keen contester and this breed of amateur will enjoy this simulator. I have read of some American amateurs being fooled completely by this simulator when it was in a prototype form: it looked like a transceiver then and certainly sounded like one.

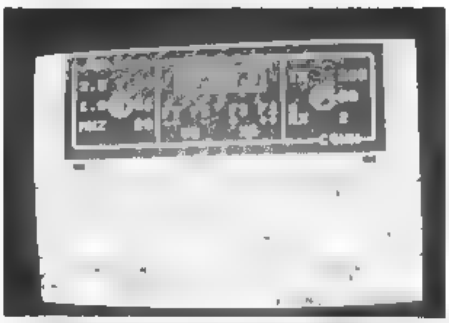
For me, it is a great device. I found that my code speed and proficiency made marked improvement. I just wanted to go faster and faster. No doubt this would happen for others. By turning the monitor and lights off there is no obvious way of knowing whether you are working the simulator or a transceiver. The only way I found to pick the difference was the sound of computer generated noise. There was a difference if you concentrated on it.

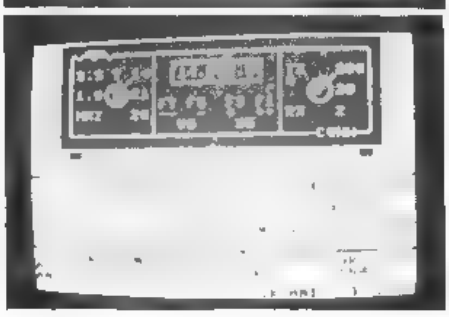
Doctor DX could be called "Claytons" radio, but with current band conditions, for contestors, it is more fun.

The Doctor DX simulator was supplied by Hy-Tech Distributors of Archerfield Airport, Queensland.

AR

Below: The TV Screen. The dot beside TX and RX indicates that tone is being transmitted or received.





The Club Conference — How It All Started

1985 'celebrates' the tenth anniversary of the Wireless Institute of Australia, Queensland Division Annual Radio Club Conference, originally known as the "Radio Club Workshop". This Conference is now an accepted way of life in this Division, so it may be of some interest to learn something of the development and history.

Way back in the 70s, 1973 in fact, the idea was mooted by John VK4QA as a Council member that Council should meet with representatives of all affiliated radio clubs in Queensland to:

a: find out what the clubs and their members really wanted
b: combat the age-old differentiation between CITY and COUNTRY, between US and the QUEEN STREET COWBOYS
c: create a continuing above the board relationship between Council, the affiliated clubs and WIAQ members.

It took quite some time of deliberations at Council level to finally suggest that such a meeting would have some benefits. The major supporters of this idea were John VK4QA, Roger Davis VK4AAR and David Laurie VK4DT.

Finally, towards the end of 1975, Roger VK4AAR, could not stand it any longer and, before anybody knew it, he called a mini workshop for South East Queensland, held in Ipswich. Only a few SEQld clubs participated, but the outcome of it all was that Council suddenly woke up and a plan was formulated whereby a workshop was to be held at times to be determined and not be limited to Brisbane.

Council determined that the first workshop was going to be held at BUNDABERG in March 1976. Only one delegate from Brisbane made it to Maryborough, only to be stopped in his tracks by 4 metres of water over the road just north of Maryborough. No workshop in Bundaberg.

Council then reviewed the policy and decided that such workshops could better be held in Brisbane every so often and delegates from northern clubs reimbursed their airfares. Further, by being held in Brisbane, money would be saved as otherwise the whole Council or at least a majority, would have to be transported by air or road, the costs to be borne by the WIAQ members. This was just not on and the suggested venue of Brisbane was more acceptable.

The first workshop along these lines was finally held in September 1976. Roger VK4AAR, was able to secure the YMCA Hall in Windsor and there the delegates from most of the affiliated clubs met for the first time. It would be optimistic to say that right from the beginning a cordial relationship existed between the delegates and council.

However, the delegates became more talkative AND critical on the second day of the workshop, once they discovered that Council was genuine in their attempts to create better communication between 'them" and 'us".

When, towards the final hours of the workshop, Council announced that the following workshop was scheduled to be held in 1978, the meeting quickly moved that the workshop should be an annual affair, even if it meant extra expenses to both the WIAQ and the clubs.

Before the second workshop was called, Council decided that it would be an excellent idea to hear from the clubs what they thought about certain Federal Conference Motions, so that the VK4 delegates would be better informed. Thus, the conferences (or workshops) were destined to be held one or two weeks before the date of the Federal Conference.

The workshops in 1976 and 1977 were held in Windsor, the Brisbane North Amateur Radio Club hosted the workshop in 1978, 1979 and 1980, followed by the Redcliffe Radio Club in 1981.

At this point in time, the then Council realised that a lot of time was wasted in the transportation of delegates from private billets to wherever the workshop was held. Guy and Anne Minter VK4ZXZ and VK4KZX, had heard of the possibility to use certain sections of the Griffith University when the Uni was in recess. Fortunately this usually happened just when the workshop should be held, so it became possible to meet at the University in the 'live-in-format". 1982 saw this idea implemented for the first time and it has now become a standard feature.

1982 also saw a new idea being applied to the workshop, thanks to the then VK4 Councillor, Dave Laurie VK4DT, the formulation of specific WIA policies. Although the task was rather unexpectedly thrown upon the shoulders of the delegates, all 'committees' acquitted themselves very well and their results became, after some dressing up, the OFFICIAL WIA POLICIES. This idea has continued until this day and the 1985 delegates are prepared for another round of policy making sessions.

In 1983 a great debate took place on the 'name' of the workshop. Finally, with the barest of majority, the Radio Club Workshop was no more and became the Queensland Radio Club CONFERENCE. Another innovation was the "appointment" of a permanent chairman and since 1982 David Jones VK4NLV, has done a tremendous job.

So, with having read all this, what is there in it for the "ordinary" club and WIAQ member?

There is ONE and only ONE answer, you as a member has now the destiny of your own future in your very own little hands.

Clubs who take the conference seriously will discuss the presented motions and instruct their delegates accordingly. That is part of the input of the club to the conference. In turn, the delegate will have endless yarns with other delegates and will come back with someone else's ideas which could be of benefit to his own club. Thus, much more is achieved than only discussing motions, clubs get to know each others problems and possible solutions.

The original originators of the workshop idea should be more than pleased with the way their brainchild has developed. Lets hope it will continue to grow and improve. A hard road is ahead of future conferences, because they will now have the "competition" of other Divisions who finally have discovered that the Queensland Radio Club Conference is not such a bad idea after all.

AR

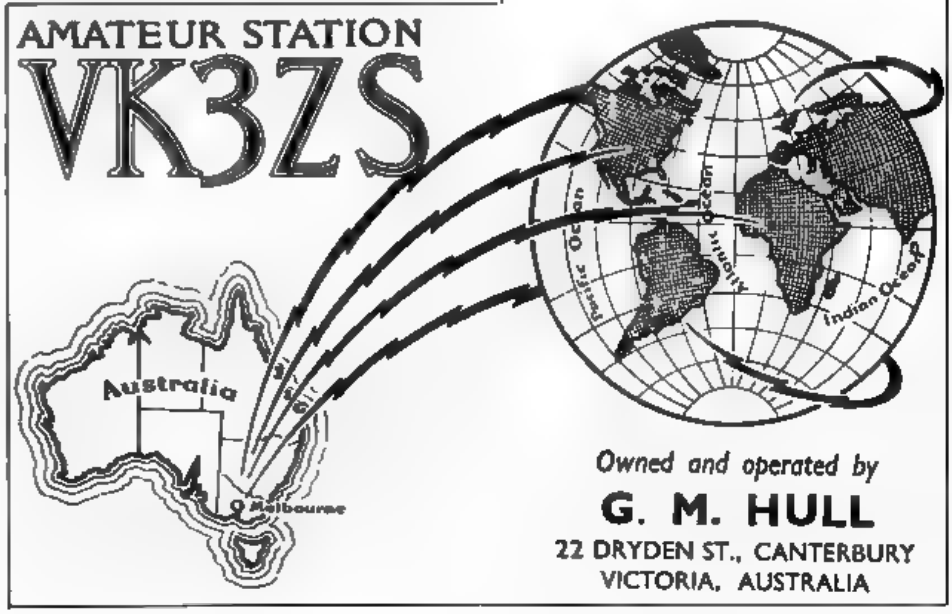
Historically Speaking

Below is an early QSL card designed and used by the WIA Federal Historian, Max Hull VK3ZS

Max designed the card to depict his signal from Melbourne reaching the four corners of the world. Max was first licensed in 1937.

Max would now like some help from YOU. As Federal Historian he would like to learn YOUR story so that our past will not be lost. Max is seeking stories of firsts, historical or human interest, etc. You may think the story insignificant, amateurs of tomorrow may be fascinated.

Now is the time to write it down and post it to Max at Box 33, Canterbury, Vic. 3126.



From QRM, Vol 3, No 3, April 1985

AROUND THE CONVE

The 49th Annual WIA Convention was hel
was attended by Federal Executive, Coun
cillors, Observers and Special Guests

Proceed ngs were ably cha red by the Fe
important matters pertaining to the futu
considerable length Also reports of special

Many new faces were welcomed, some of
Councillor VK7, Graham Ratcliffe VK5AGR
Councillor, Rowland Bruce VK5OU, Obse
Chairman

Gordon Bracewel was elected to Execu
resigned last year

A detailed report of the Convention will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Photography by Berkom Productions


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ENTION TABLE — 1985

eld n Melbourne between 26th 28th April and
ncillors from al Div sions, Alternate Coun-

ederal President David VK3ADW with many
ture of amateur radio being debated at
a Federal Officers were presented
of those being Joe Gelston VK7JG, Alternate
R, AMSAT Co-Ordinator and VK5 Alternate
server and Peter Gamble VK3YRP, FTAC

utive to replace Tony Tregale VK3QQ, who

e presented n next month's magaz ne

Main photograph. David VK3ADW, Federal President presents the RD Trophy to Steve VK2PS, VK2 Councillor. VK2 were the RD winners for 1984. 1. GeorgeVK1GB and Fred VK1MM. 2. Steve VK2PS and Tim VK2ZTM. 3. Des VK3DES and Alan VK3BBM. 4. Allan VK3AE. 5. Peter VK3ZPP, FTAC Repeater Co-Ordinator. 6. David VK3ADW and Peter VK3KAU. 7. Reg, Secretary/Manager. 8. Steve VK2PS was elated to accept the RD Trophy on behalf of the VK2 Division. 9. Wally VK2DEW. 10. Peter VK3YRP, Chairman of FTAC, Guy VK4ZAZ and Peter VK3AVE, member of FTAC discuss band plans. 11. Joe VK7JG and Peter VK7BQ. 12. RD Trophy. 13. Neil VK6NE and Bruce VK6OO. 14. Ross VK4IY. 15. Graham VK5AGR and David VK5AMK wept as Steve received the RD Trophy. 16. Bill VK3ABP and Earl VK3BER. 17. Rowland VK5OU.

NOVICE NOTES

Ron Cook, VK3AFW
Technical Editor

Diode Switches and TVI

It has been brought to my notice by Bill VK3ARZ and Ken VK3ACS, that most current model video recorders use diode switches to switch the TV signals through to the recorder or to the TV receiver. Unfortunately they considerably increase the likelihood of TVI.

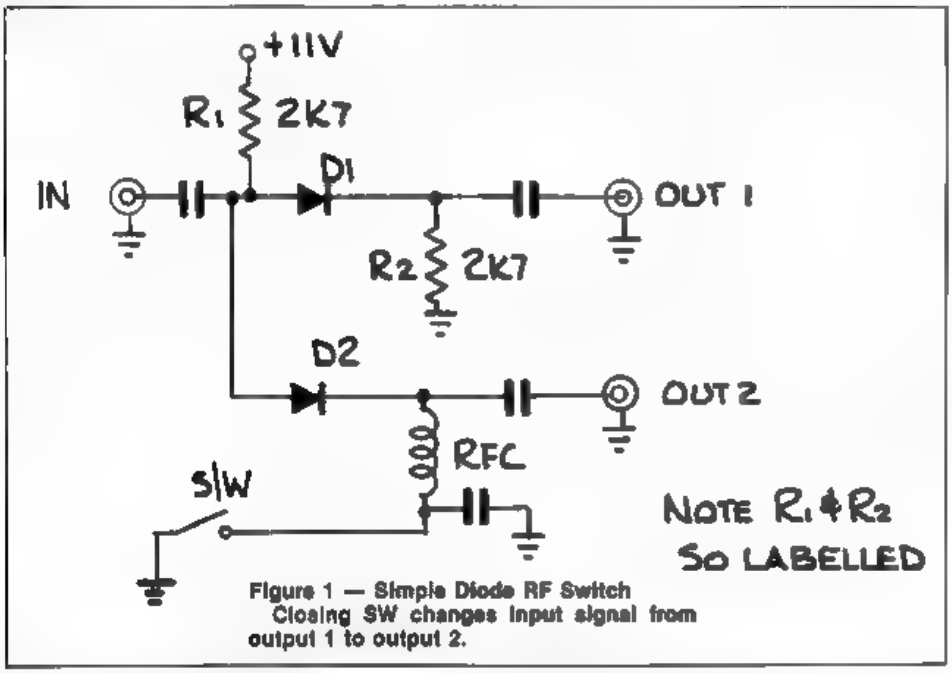

Figure 1 — Simple Diode RF Switch
Closing SW changes input signal from output 1 to output 2.

Figure 1 shows a possible configuration for a change-over switch which can be operated by a single on-off switch. The latter need not be designed for RF nor need it be near the RF circuit where the switching takes place. For best results D1 and D2 should be PIN diodes which are specifically designed to switch RF. Unfortunately it seems that the manufacturers have opted for cheap 1N914 type diodes. These will rectify strong RF signals quite readily.

When the switch SW is open a current flows through R1, D1 and R2. D1 is forward biassed and will allow small signals of a few millivolts maximum to pass without distortion or rectification. If SW is now closed D2 will conduct and D1 will stop conducting. The current will prefer to take the path, D2, RFC, as it has a lower resistance than the D1, R2 path. Thus the input signal may be directed to either output 1 or output 2. The signal will flow through D1 or D2 when they are forward biassed or conducting because the resistance of the diode is only a few ohms under this condition. When no current is flowing through the diode it has a high resistance. Provided the applied voltage is less than about 0.6 volts (for a silicon diode) there will be negligible current flow, but above this voltage the diode conducts. Hence a strong amateur signal might cause D1 to turn on (on each positive going RF cycle of the amateur signal). Even when the diode is on due to the applied DC the amateur signal may still be rectified.

Unfortunately one of the effects of rectification, apart from switching the TV signal on and off at a frequency determined by the amateur transmitter, is to produce harmonics. Thus there exists a rich source of TVI. One of the interesting effects is that the interference is worse on the TV set than on a recording made at the same time of the same channel. If you have a report of TVI concerning a VCR ask the owner to help you do a test with the antenna connected directly to the TV set rather than through the VCR. If this clears the TVI then you have a case of diode induced TVI.

Usually a simple cure can be effected. A low-pass filter can be inserted in the coax at the input to the VCR. If you are making up a unit stick to proven designs. Calculation of the inductances from first principles will result in too low a cut-off frequency because the standard inductance formula does not take into account self capacitance effects. Ken VK3ACS, has found errors of 20 percent or more at 30 MHz for small inductors.

A simple solution is the use of a "Braid Breaker". Figure 2 shows a simple design supplied by Ken.

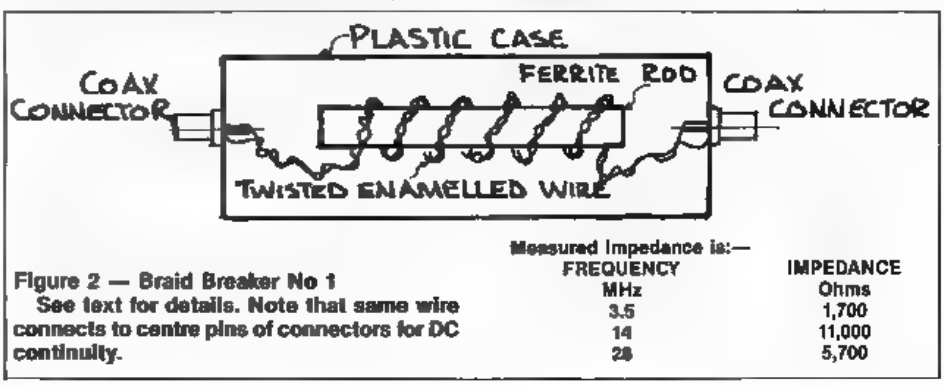

Figure 2 — Braid Breaker No 1
See text for details. Note that same wire connects to centre pins of connectors for DC continuity.

Measured Impedance is:—

FREQUENCY MHz	IMPEDANCE Ohms
3.5	1,700
14	11,000
28	5,700

The reactances were measured using a Wayne Kerr RF Admittance Bridge. Two short lengths of 28 B&S enamelled copper wire are twisted together at one turn per cm to form a transmission line of about 72 ohms impedance. This line is wound on a standard 100 mm long ferrite antenna rod. Ken used 42 turns spread over 92 mm.

Ken also had a toroidal core of about 40 mm diameter on which he wound 20 turns of RG179B/U coax as in Figure 3. This coax is thin and teflon insulated. Dick Smith stores are one source of this. It has a similar impedance compared to the other design and gives a better result on 14 MHz. (This is of no consequence to the novice.)

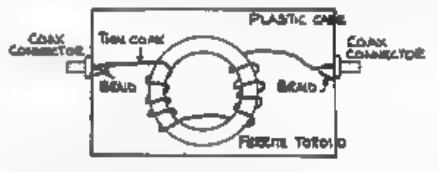

Figure 3 — Braid Breaker No 2
See text for further details. Note that the braid of the coax connects to the outer of the connectors.

Measured Impedance is:—

FREQUENCY MHz	IMPEDANCE Ohms
3.5	4,500
7	33,000
[illegible]	37,000
[illegible]	3,000
28	2,300

The properties of the ferrite are not of great importance in practice so almost any ferrite rod or toroid is worth a try.

The braid breaker works by placing a high impedance in series with the TV coax braid thus choking off any RF which is present on the outside of the braid. In most cases of interference to VCRs the amateur signal will appear on the outside of the coax (which acts as an excellent HF aerial) and then finds its way to critical parts of the set from there. A braid breaker will cure this problem but usually a low pass filter cannot, sometimes both are needed together. Braid breakers are easy to make and can be an inexpensive and practical answer to that TV problem. Thanks Ken for the information.

73 de Ron.

EQUIPMENT REVIEW

Ron Cook VK3AFW
TECHNICAL EDITOR

THE ICOM IC-3200

INTRODUCTION

Anyone who has a car less than 6 years old will know the difficulties of fitting one, let alone two rigs into the car in a convenient position. For the multi-band VHF/UHF operator this poses something of a problem. Well worry no more, Icom have produced the answer — the IC-3200.

The IC-3200 is a small dual band FM transceiver that packs a punch. It measures only 140 mm wide, 50 mm high and 207 mm long and weighs just 1.9 kg. Power output is a minimum of 25 watts on 146 and 440 MHz. It comes fully equipped with all the features you would expect of a modern microprocessor-controlled rig.

In fact the set is so small that antenna and power sockets could not be fitted on the back panel. Instead a short length of coaxial cable exits through a grommet and is terminated in a cable-mounting female SO239 connector. The DC power cable similarly exits through the back and is terminated in a click on connector.

SOME GENERAL DETAILS

The unit supplied was serial number 1! This must be a first for Australia. Because this was a pre-release unit only a Japanese manual was available. (Perhaps there is sometimes merit in reading the handbook only when all else fails but this was not one of those occasions). When this model is released in June it will come with an English handbook, a mobile mount, microphone and power cable.

The case has a very ordinary plastic appearance. The front panel has a neat functional appearance and features a large LCD display which is backlit with a green light. The display incorporates a signal level bar indicator and displays the operating frequency. It also indicates which of the two VFOs are in use, the selection of memory channel, duplex or simplex operation, priority channel, tone burst, and indicates transmitter RF output level. When programming the set other functions, such as the duplex offset frequency, are displayed. Any offset may be programmed although the transmitter will not transmit out of band.

There are 8 function buttons, 5 of which have a second function selected by a control button. Two other buttons control large frequency steps, up or down. Smaller frequency steps can be achieved by turning the main tuning control or by buttons on the microphone. The volume control and squelch are conventional potentiometers with the latter also being used to switch from 5 to 25 watts output. Call tone facilities are available although they are not of use in this country yet.

In spite of the number of controls, which is modest by some standards due to using dual functions, there is no need to worry about hitting two buttons at once because of the size of your fingers. I found the control size quite acceptable and adequately spaced.

The operating frequency may be locked to prevent accidental QSY, a priority channel may be scanned every 5 seconds for 1 second, memory channels may be scanned (or skipped without being erased).

The size of the frequency steps may be selected to be 5, 10, or 25 kHz.

ON TEST

According to the manual the power level is normally set to 26 watts on both bands. The receiver sensitivity seemed very good on both bands.

The set was given a "test drive" and found to give a very good account of itself. The extra power improved the signal received at the other end in some of the notorious "holes". Using a quarterwave antenna on both 146 and 440 MHz gave very good mobile reports at ranges of 120 km from several repeaters. It was generally not possible to pick any signal strength difference between the 2 m or 70 cm signals when co-sited repeaters were used. The audio reports received were very good. The receiver audio level was sufficient to overcome all noises induced by travelling at the speed limit and was of good quality especially considering the size of the speaker.

A dual-band antenna was constructed and although it was not as effective on 440 MHz as it should have been, several hours of mobile operation were achieved using both bands. The ability to change channels and bands by pressing a button on the microphone was a new experience for me, and one which I enjoyed as it is a much safer means of changing frequency when mobile.

FOR THE TECHNICALLY INCLINED

Now for some comments about the circuitry. When the case is opened a neat but not overcrowded pair of printed circuit boards is exposed. Servicing would not be as much of a problem as for some of the handheld sets.

The 2 m and 70 cm RF sections are separate. Both receiver front ends use 3SK121 FETs with bandpass filters. The 70 cm section has a 2SK125 as a second RF amplifier. The IF section is common and has a 30.875 MHz first IF feeding an IC amplifier, detector and noise amplifier operating on 455 kHz. An active filter is used in the AF chain to improve the received audio readability.

Separate VCOs are used for the transmitter and receiver oscillators. The output power sections are modular units rated at 25 watts out. Diodes are used to provide antenna switching between transmitter and receiver. A lowpass filter connects to the antenna socket for 2 m and a highpass filter followed by a lowpass filter connects the common antenna line to the 70 cm change-over switch. An additional lowpass filter is used on the output of the UHF module.

All of the functions are controlled by a microprocessor chip which monitors the rotary dial and switches for operation. A digital to analogue converter is used with a comparator to measure the signal and RF levels. Digital data lines from the microprocessor drive the LCD display, VCO dividers, key scan lines, and diode switches. A memory back-up battery is used to retain all those channels you stored even when the rig is removed from its power source. Incidentally, the block diagram has an interesting spelling of "battery", namely "buttaly".

FINAL COMMENTS

In conclusion I found this rig to be a most useful innovation even if it is not the first dual band VHF/UHF FM transceiver to reach these shores. It is up to the usual high standard of Icom for VHF equipment. The price is likely to be around $700 which is less than the cost of two rigs. Perhaps if you can afford a car large enough for two rigs the extra cost would not be significant. More details can be obtained from the Icom advertisers in this issue.

STAR RATING

Rating code:
* *poor* — ** *satisfactory*
*** *good* — **** *excellent*

APPEARANCE	
Packaging	****
Size	****
Weight	***
External appearance	**
Construction quality	****
FRONT PANEL	
Control location	***
Control size	***
Identification	***
Display	****
Status indicators	***
RECEIVER	
Sensitivity	***
Selectivity	***
Audio	****
TRANSMITTER	
Output	****
Audio	****

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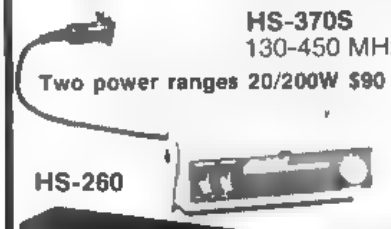
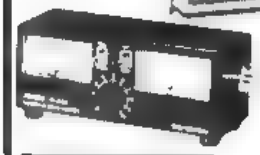


HS-370S
130-450 MHz
Two power ranges 20/200W $90 + $10 p&p

HS-260



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RG 213	1.74	N.A.	N.A.	7.20

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10D-FB	$5.80/m	NP-10DFB	$11.60
12D-FB	$7.90/m	NP-12DFB	$12.50

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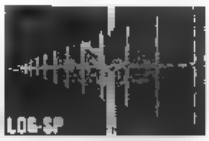

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Debeglass	2.5	[illegible]	430	3.0	6.3	560
Steel wire	2.5	[illegible]	[illegible]	3.15	9.3	530

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WORLDWIDE WEATHER FREQUENCIES (WWB) lists a range of weather frequencies, as well as their modes $18 + $5 p&p
RTTY FREQUENCY LIST (WWRS) lists nearly all RTTY users and their frequencies, as well as modes. $23 + $5 p&p
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The GP-1217 is a 17 section collinear vertical with 10.8dB gain
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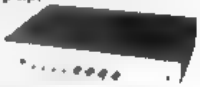
FOR THE RTTY OPERATOR — MDK-17 (KIT)

A high performance modem kit for use on a computer or teletype. Offers high noise immunity on receive **$118 + $6 p&p** (kit) or **$181 + $8 p&p.** (assembled)

MFJ-1224



versatile RTTY/CW modem. Interfaces with a computer and is supplied with software for VIC-20 or Commodore-64
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DCM is a receive only program for the TRS-80C on CW, BAUDOT SITOR
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AR SHOWCASE

ANTI STATIC DESOLDER NOZZLE

A new conductive nozzle model SNAS has been released by Scope Laboratories for their model SR desoldering tool.

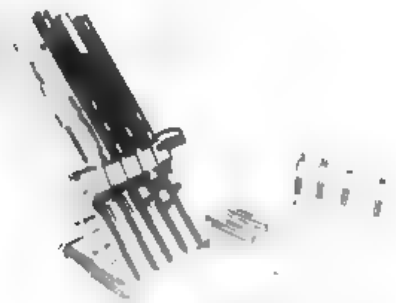
It will help technicians eliminate one more source of damage to voltage sensitive MOS devices.

Air passing rapidly through a high surface resistance Teflon nozzle is a major generator of static electricity. Scope have approached this problem by rendering the Teflon sufficiently conductive to dissipate static voltage at its source.

Distribution of this new nozzle is through electronic trade and hobby supply houses.

For further information contact — Scope Laboratories, PO Box 63, Niddrie, Vic. 3042. Telephone (03) 338 1566.

AR



NEW IC TOOLS

Tools that accomplish more than one basic task will always justify their existence in workshop or production facility.

These new IC dispensers and IC inserters show clear signs of thoughtful design. They are distributed nationally by Scope Laboratories.

The DS1440 series of IC dispensers embody these features.

(1) Built-in pin alignment fitted to every channel.
(2) Accept diverse shipping tube shapes by using a spring loaded clamp.
(3) Control IC feed velocity by varying tube slope.
(4) DIP length adjustment uses spring loaded stops.
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Standard configurations and 2, 5 and 10 channel in combinations of 0.3 and 0.6 pitch DIPs.

The SIT Series inserters and Straighteners covers 8 pin to 64 pin DIPs in 9 tools. Their design features include.

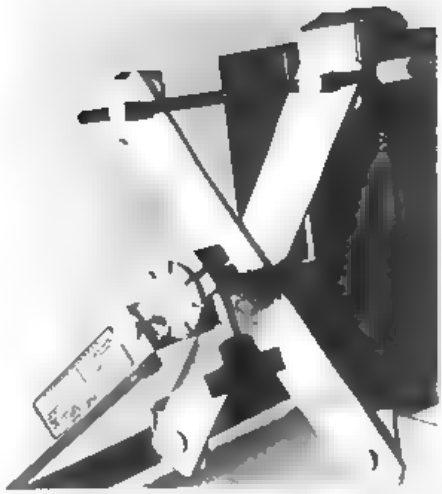
(1) Built-in pin straightening facility — which also provides an effective non slip hand grip.
(2) Slim Wall Stainless Steel clips to cope with high density boards.
(3) Anti Static metal plated surface.

The DS series dispensers are designed for use with the SIT Series inserters and singly or in combination they appear to perform a useful combination of functions.

Distribution is through electronic supply houses in all states.

For further information: Ian Pittman, Scope Laboratories, (03) 338 1566.

AR

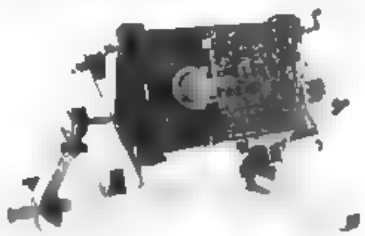


CHASSIS HOLDER ROTATES AND LOCKS

An irregular shaped 40 kg chassis which won't balance in the position you want can be dangerous and frustrating on the work bench.

A New Scope-Panavise work Holder will clamp irregular shaped chassis of up to 50 kg.

Available with either scissor type clamping heads (model 601) or self centering vise heads (model 602) this 'Chassis Mount' rotates about a horizontal axis 225 mm from the bench top.



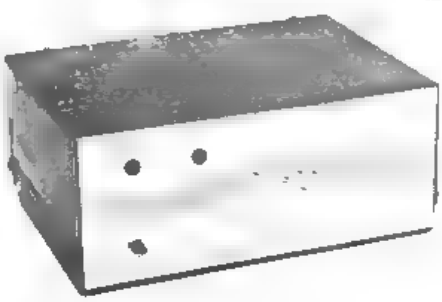
Rotation can be checked using an 8 position positive locking detent or by using twin friction brakes which allow chassis positions to be precisely selected.

Clamp capacity is 225 mm and whilst chassis widths up to 450 mm are accommodated on the standard model, greater widths are feasible with special wider cross bars.

Both units are lightweight (6 kg) and portable. They will be available through electronic electrical and industrial hardware suppliers.

For further information: Ian Pittman, Scope Laboratories, (03) 338 1566.

AR



INTELLIGENT RADIO DATA MODEM

GFS Electronic Imports have announced the availability of a new microprocessor controlled radio data modem. Known as the CPU-100 it is designed to provide both Baudot and ASCII data communications over a narrow band HF/VHF/UHF FM or SSB radio path. Being intelligent it relies on internal firmware for control of its operating facilities which may easily be "reconfigured" to suit a users requirements.

A number of versions of the CPU-100 currently exist. All are designed to connect directly to a dumb terminal or TTY KSR printer (ASCII) via the RS-232 port. Baud rate to this IO port is selectable from 50 to 19200 Baud via an internal Dip switch.

The commercial version of the CPU-100 provides a fully transparent interface between the users remote terminal, narrow band radio bearer and main frame computer. It can do this either as a full duplex system (using a duplex radio link) a half duplex system or simplex depending on the users requirements. Error detection and/or full error correction can be provided. Data speeds used over the bearer may be up to 2400 Baud depending on the radio links quality. Other facilities may be also built in to the CPU-100. For example auto password/call sign transmission and reception could be included. Up to 2 k of internal backed up RAM and 8 k of ROM space is available to store such user requirements.

An amateur radio version of the CPU-100 is also available. It is designed to operate in either Baudot or ASCII modes and provides user variable Baud rates and selective call recognition.

Other facilities available include backed-up memory, user call sign buffer, three large multi-character buffers as well as auto terminal configuration.

For further information on the CPU-100 range contact the distributors GFS Electronic Imports, 17 McKeon Road, PO Box 97, Mitcham, Vic, 3132. Phone (03) 873 3777.

AR

HOW'S DX

Ken McLachlan, VK3AH
Box 39, Mooroolbark, Vic 3138

Having been burning the midnight oil of late has given me the opportunity of listening around the spectrum and listening to a number of signals from Europe particularly on the 20 metre band, short path.

I am still amazed at the number of stations that call CQ for long periods without a pause. One particular station was not having much joy in getting any replies, admittedly his audio was not of "broadcast quality", but he was persistant. After about the fourth CQ call, I timed his CQ call and it was 4 minutes and 22 seconds. Out of pity I called him, gave him R3 to R4 and S9, we exchanged names and QTHs but he either did not understand my remarks about his audio or did not want to. After completion of the contact he repeated the same procedure.

In my book this is a waste of time and energy, a 30 second CQ, then a break to listen and another 30 second CQ call is ample on a quiet band. If no luck, shift frequency, ask if the frequency is clear and if so, proceed again. It is less tiring and generally more productive.

With the band opening up, I was hooked and gave one CQ. Two hours and many enjoyable QSOs later I wanted to go QRT, it was not to be, as many stations were still calling. I firmly stated that three more reports would be my limit, kept my word and went QRT.

It has always been my policy in such a situation to periodically listen for QRP, YL and mobile stations. The QRP stations have as much right to a QSO as the mobile and neither have the advantage of power. The YL ploy doesn't always sort the baritones from the sopranos but if one is persistant the YL will emerge and on one evening I had the pleasure of making one mobile and three YLs happy as being their first VK. All were running around 25 watts into either a whip or dipole.

Try it sometime. It is nice to make someone's day, somewhere!

75TH ANNIVERSARY

The WIA is not the only one celebrating its 75th Anniversary this year. The Canadian Navy are also celebrating and prefixes of CF1-CF8 for VE1-VE8, CY1 for VY1, VC1-VC2 for VO1-VO2 and CF0 for VE0 have been active on the bands. Congratulations to the Royal Canadian Navy on their anniversary.

Another anniversary is the South Africa Amateur League who are celebrating their 60th Anniversary this year. One of the special stations is ZS1SARL which is quite active. Congratulations SARL.

SILENT KEYS

It is sad to report the passing of two well known and respected DXers. The first is of Sebastiao PY1SM, who passed away three days after a heart attack, less than a month before his 100th birthday. Sebastiao was consistently active up until the time of his attack and surely must have been the oldest active amateur in the world.

Another well known DXer and exponent of the hobby Tex TL8TX became a Silent Key in a Paris hospital earlier this year. Tex sustained serious injuries after being involved in a nasty accident at the timber plantation where he was employed in the Chad Republic.

Tom K0VZR hopes to obtain all the logs for his operations under that call, which are still in Africa otherwise, he will have to return about 250 cards as he will not be able to verify them.

Both amateurs will be sadly missed but not forgotten for their contributions to the hobby.

DETECTIVES WANTED

Peter G3VIE a member of the Chiltern DX Club, is desperately trying to find the QSL information for Ron AX9RY, who he worked on the 31st August 1970. It is believed this operator became P29RJ, but letters and cards have not been answered. It would be appreciated if anyone who has any clues could pass them on to Peter or to this column.

ACTIVITY FROM 3X

Harry DL7AH/3X has been active from Conarky in the Republic of Guinea. QSL to Harry at the Call Book address, but be patient as he will not process cards until he returns home, probably later this month.

NEW PREFIXES

Portugal presently CT is about to change its prefixes. They will be based on the class of licence and postcode. CQ is for a Class A licence, CR for Class B, CS for Class C and CU for Class D. More confusion in the ever changing prefix alterations but a boon for the prefix hunter.

WHO NEEDS POWER

In reading the DX News sheet, Tom GW3AHN, after checking his logs, notes that he has worked 307 current countries in a recent six year period using only 25 watts input. No mention is made of the antenna or the number of confirmations that he has received. If you read this Tom, I am sure that all readers would be interested in your set-up and remarks concerning that period. *How about a few paragraphs for the VK readers, Tom?*

FAROE ISLANDS

News from Martin OY7ML is that OZ5DL and OZ5UR will be operational /OY from the Faroes during June. The operation will begin on 6th June 1985.

ALBANIA

The appearance of "ZA2BB" that was worked by at least three VK4s and amateurs from other countries prompts me to say that the last known legitimate operation from this country was in 1971, under the call [redacted].

Since then quite a number of amateurs have applied for a licence, the answer always being "Sorry, no amateur radio". In 1979 a statement was made by an Albanian Embassy official that, "As from January 1975, amateur radio licences are only granted to nationals". According to an acquaintance from that country it is illegal to have a radio transmitter.

So Albania climbs to be one of the most wanted countries in the world and we wait until the Government has a change of heart. With the complicated political and economical situation in that country, it is personally felt that it will be very low on the list of priorities, unfortunately.

Personal feelings are that Martti OH2BH, may one day be the first to break the barrier and encourage the hobby, as Tom VE7BC did in China, which took over a decade to accomplish.

It is felt that the "ZA2BB" was the figment of a sick minded person who had access to transmitting equipment. Such actions that are perpetrated against a country that is inactive due to its government, are only further placing reactivation in the imminent future in jeopardy.

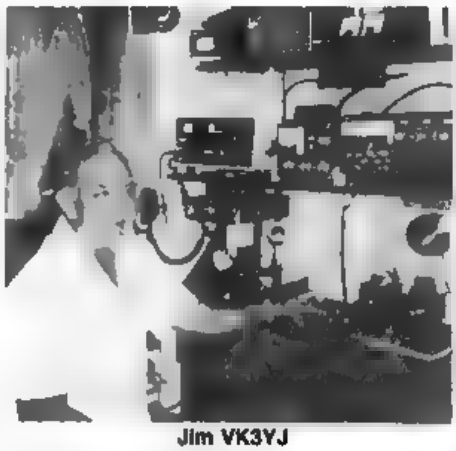
I hope that I am proved wrong and if I am, congratulations to those that made it.

Photograph courtesy World Radio

Unal Akbal TA1A, ex TA1UA, is the first amateur licensed in Turkey (see p39 — April).

CONGRATULATIONS

Any member who has access to the magazine "73 for Radio Amateurs" for April this year should read the excellent article written by Jim VK3YJ, their Australian correspondent.



Jim VK3YJ

Jim, a man of boundless energy, who is ably supported by his XYL Anne, has written articles for AR and regularly subscribes to this column. Jim has written an excellent article on the Institute and its 75 years of history for the overseas magazine. Also Jim has outlined why non-members should become members of their Society and it would be an excellent article to show to that friend who borrows your copy of AR each month but is reluctant to join. It is thought that all Divisions of the Institute would have a copy that could be photostated by supply of an SASE and a stamp to defray copying expenses.

CLIPPERTON

They made it and FO0XX signals into the Pacific were excellent. I worked Clark W6TN, not a member of the planned group, but took Kip W6SZN's place at the last moment due to his business commitments.

Congratulations to all on a first class effort.

FORTY AND EIGHTY METRE ENTHUSIASTS

Apparently JT1AO is interested in arranging scheds for 40 and 80 metres. If you are interested drop him a line to CH Chadraawal, PO Box 844, Ulan Bator, Mongolia.

CARDS STILL AVAILABLE

F6AJA now FE6AJA still has logs for CC31MD (Oct 1983), FG0BKZ/FS7, FG0HVL, FG0HVL/FS, FG0FGM, FG0FGM/FS, FM0HVL, FM0HVM, FY0HVL, FY0HVM, TR0AB, TR8JD and TR8YL. If you have worked one or more of these stations and still require the paperwork, now is the big chance.

F6AJA's QTH is Jean Duthilleul, 515 Rue de Petit Herm, Ouvignies, F-59870 Marchiennes, France.

Still on cards you might have missed out on Rick NE8Z, (ex WB8ABN) an avid DXer, who QSLs 100 percent. Rick still has logs for the following operations and would be glad to supply cards for the needy.

F0MH-1969, FG0MH-1971, HC1EE-1974, HC1MD-1980 onwards, HC1MM-1972 onwards, HC5EE-1974-1981 HC7EE 1980, HC8EE-1977/79/80 HC8MD-1981 HC8MM-1979 HC9A-1981CQ WPX SSB, HD5EE-1976/1979 HD8CD-1977, HD8EE-1977 HD9EE-1977, HD9X-1979/80, HD0E-Oct 1978, HD0EE-1977, KZ5GC-1979/80. NE8Z/PJ3-Nov 1984 PJ8RD-1971, VP2AAB-1971 VP2EEL-1971 WB8ABN/HC-1971/74/75 and ZF1CW-April 1969.

Rick's new address is Rick Dorsch MD, PO Box 62 Rochester, Michigan 48063 USA.

ZC4 AGAIN

A letter from a member has brought to light a number of points regarding this new DXCC Country

Apparently for security reasons the exact QTH was not readily given and it was convenient to use the name of a close town as the QTH The Club station ZC4SS was operational from a location "fairly" close to Famagusta but not within the Sovereign Base of Dhekelia The member was active from 1963 to June 1966 and was instrumental in getting ZC4SS back on the air

If a service operator was living in civilian quarters outside any of the bases he used SB and all licences were issued by the Chief Signals Officers Branch, Dhekelia on production of the relevant authorisation of the applicants country of origin

Apparently according to the RSGB DX News there is mention that the ARRL have been advised that all operations since 1974 have been within the Sovereign Base.

WHY THERE IS NO DX

The published 1984 figures from the Sunspot Index Data Centre in Brussels didn't paint a very pretty picture for the avid DXer as reported in Lee KH6BZF Reports publication

The mean figures from January through to December were 57.0, 85.4, 83.5 69.7, 76.4, 46.1, 37.4, 25.5, 15.7, 12.0, 22.8 and 18.7 The 1984 yearly mean was 45.85 and that is why so many have migrated to the lower bands. The bottom of the cycle is still to come but occasionally there are some good openings Take heart, tune and listen, you may be pleasantly rewarded.

A CLASSIC AD

On reading January 1985 QST I came across a stray ad which read *I would like to get in touch with any amateurs who are professional clowns. James A Payne (Tiny the Musical Clown), W6JCR, 903 Mission Street, Santa Cruz, CA 95060."*

I would like to nominate quite a few who in my book, are "professionals", particularly after listening to a rare DX station on frequency but I couldn't inflict their mentality on poor James. Sincerely James I do hope you get some genuine replies

BITS AND PIECES

Bob NA6T was having quite a "Ball" from KH4 over the Easter break ** Mike VK6HD's call still appearing regularly in DX Bulletins as being heard and worked on 160 metres ** Visitors to Vienna have no problems in gaining permission to operate 4U1VIC. Basic requirements are a copy of your current licence and a station operator to be in attendance. ** It is believed that 5X5GK now at last has written permission to operate. ** Irma OHMA and Miriam OH8YL are believed to be the first OH YLs to operate from Longyerbyen when they handled the multitude in late March and early April. ** Gary VO1OC/S2 operating quite often on 14 MHz Question. Has he the appropriate paperwork??? This also goes for DL8YR/ST2 who is quite QRV ** Yet another paperwork problem may be XZ2HN, an amateur operating out of Rangoon from Czechoslovakia ** Vlad a Master of Sports in the USSR Amateur Organisation, has been signing J5WAD from Guinea-Bissau on 14 MHz at regular intervals ** Patsy ZD7XY, an XYL operator from St Helena has been quite active on 14 MHz. ** It appears that more than one call was used from Navassa Island by the Jamaican crew. 6Y5NR/KP1 was the designated call but 6Y5/KP1 has been logged It is hoped that it was not a pirate operation or someone testing their rig to get 5x9 reports! ** Another call for VP6, it is VR6IM and can be used for Medical Traffic on y after approval from the Medical Officer or Island Magistrate Please stay clear of operating near this stations frequency when in use. You may help to save a life. ** 8J1XPO is the official station of the Tsukuba Science Exhibition and is running 10 watts that remotely control the main transmitters several k lometres away QSL via JARL

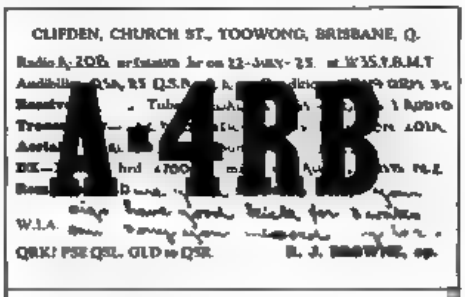
WORKED ON VARIOUS BANDS FROM THE EAST COAST

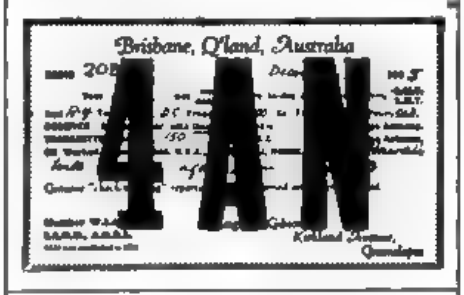
3D6AK* 4S7NE 7X5AB, 9Y4SA, A35EA*, AD7S(YL) AH6A, BV0AC* BY4AA, C30UA, C30LBM, CO2HS, CT1UA, DU1JY, EA8NB, EM5T, EO9AYB, EO9AYC, FG4CB/FS, FM5CD, FO0XX, G4KHG, G4OYU, G4RJL, G6CW, GJ3OQR, GM4OEZ, JW7VDA, KB6DAW/KH2, KB7TO, KD7RK/H4, KH0AC, KL7/RT, KO7R/H44, KH4/NA5T, KX6AZ(YL), LA8LF, LU1BTL, OR1OH, PZ9FG, SP4DC, SP6JOE T32AF TF3SV*, TF5TP, UZ0LWX*, UZ3M/WD, V75A, VI3WI, VK0AK(YL), VK0GC, VK9ND, W6RO, WL7E, WW2ABN, YB1CS, YC0DNK, ZL4MCY

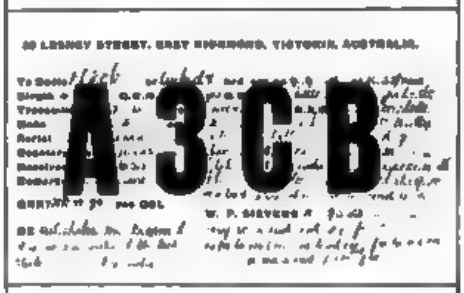
** Denotes CW operation.*

CARDS FROM YESTERYEAR

Again are reproduced some cards of yesteryear provided by the courtesy of VK2JM.







QSL INFO FOR SOME OF USSR "VICTORY 40" STATIONS

EM2C UC1AWB. EM3AXK UZ3XWW EM3W UZ3AXT, EM5BXV UB4XWA, EM6AAK UZ6AWA, EM6AYM UZ6YWH, EM8CIL UC1IWB, EM8CSB UC1SWI EM9BYK UB4JWM, EM9BWL UB4WWA, EM0CWN UC1WWR, EM0COR UC1OWE EO0ALW UZ0LWC, EO1AOK* UZ1OWA, EO1AWL UZ1WWE, EO2OGL UQ1GXF EO3ALS UZ3LWA, EO3ATD UZ3TWT, EO4APK UZ4PWA, EO4AES:UZ4AWE. EO5BCK UB4CWK, EO5BED UB4EZZ EO5BGH UB4GWB. EO6AHG.UZ6HWF EO8M UM9MWO. EO9AHT RZ9HZZ EO9AFF UZ9FWB, EO9AON UA9OA, EO9AUN UZ9UWN EO9AYB UZ9YWA, EO0AAK UZ0AWB, ER3A UZ3AZO. EU1Q UQ1GWW EU1R UR1RWN EU2P UP1BWW. EU3A UZ3AZW. EV4AP UZ4PWR EV6AW UZ6WWA, EV6AX UZXAWA, EV9AW UW9WR EW2C UC1AWC, EW3A UZ3AZM, EW7BF UB4FWW, EW0CL UC1LWA.

** Denotes Fran Josef Land.*

The above were supplied by Ken G3NBC and his XYL Kitty G1EOD.

OTHER QSL INFORMATION

4K1C	PO Box 204, 43010 Kuibyshev-10, USSR
4K1F	PO Box 88, Moscow, USSR
9V1VP	Jahnstrasse 16, D-6365 Rosbach 1, West Germany
BY5RA	PO Box 739, Fuzhou, Peoples Republic of China
CM8AR	PO Box 9028, Havana, Cuba
D68WB	PO Box 542. Grand Comoros, Republic of Comoros, Via France.
EL2AC	PO Box 58, Monrovia, Liberia
EL2CJ and EL2FJ	PO Box 45, Moriyama 463 Japan
EL2P	PO Box 1929 Monrovia Liberia
GB2PX	105 Shiplake Bottom, Peppard Common, Henley. OXON RG9 5HL, England
HC1BW	PO Box DX Stow. MA 01775. USA
HG4OB	PO Box 102, Monor, Hungary
J28EI	BP 200. F-13300 Salon de Provence, France
K4OZL/KP4	PO Box 3022. NCS FPO Miami. FL 34051 USA
KB6DAW/KH2	300A Rendova, APO San Francisco, CA 96334, USA
KC2OUV/2A	C/- VOA, PO Box 19, FPO Miami FL 34054, USA
KF7SK/L7	PO Box 591, APO Seattle. WA 98736. USA
KX6AZ	PO Box 1796. APO San Francisco, CA 96555. USA
P29PR	PO Box 2778, Boroko, Papua New Guinea
UA1OT UB4JWF and 4J5JYC	PO Box 261, 266000 Rovno, Ukraine. USSR
UZ0LWC and RK0A	DOSAAF Sport Technical Club, PO Box 11973, 660028. Krasnoyarsk-10. USSR
XX9WK	PO Box 933, Macao
YS3HB	PO Box 23. San Miguel. E. Salvador
ZD7YL	PO Box 25. St Helena Island
ZF2HI and ZF2HJ	KZ2E 4892 Occoquan Club Dr, Woodbridge, VA 22192 USA

QRL MANAGERS

3D2CQ WA6VNR, 4N4EXA YU4EXA 4U1TU +/- 16/02/85 AA4V, 4U1ITU 16/02/85 — 03/03/85 DF2P 4Z4DX WA4WTG, 4Z4HF WA4WTG, 5T5CJ W4BAA ST5RY F6FNU. 5V8WS:DJ6OT 6W1DY VE4SK 6W1LL DL1HH, 6W1NO DL1HH 6W2EX,F6EYS, 8Q7GW:W9GW. 8Q7RD:DF2RG, 8Q7YL JA1AEQ. 9Y4F VE7DRW. A35EA ZL1AMO. AP2ZA W6NLG. BV0AC JA9AG, CG7BXO VE7BXO. DJ0SBC6A,DJ0SB, DP0GVN,DJ4SO. DX1N,JH3OII. HI0B,HI8IH, HI84AMS W7PHO, Y4FGM: 4IKW. J4ISV:SV1OI JW0EQ JA5NM. KC6MR + KC6MR/KX6 + T30ZK,JJ1TZK JW4E JA5NM OE3HGB/YK:OE Bureau, OH1MA/CT3 OH1MA OH1RY/CT3 OH1RY, TI5MRC VE3MR TF5TP DL7MQ TR8GR,W2PD. TU2BR,KN4F YZ3F,YU3MX

THANKS

Sincere thanks go to the following The Editors of weekly, bi-weekly and monthly newsletters including the ARRL NEWSLETTER RSGB DX NEWS, ORZ DX, LONG SKIP, DX FAMILY FOUNDATION NEWSLETTER JAN and JAY O'BRIEN'S QSL MANAGER LIST and KH6BZF REPORTS. Magazines including CQ, cqDX QST RADCOM JARL NEWS, KARL NEWS, OZ, 73 for Radio Amateurs, BREAK IN, WORLD RADIO and VERON

Members who have contributed include VKs, 2JM, PS, BSD, EBX, 3BY FR, YJ, YL 4AIX, BHJ, 6NE, PP G3NBC and L30042 Overseas amateurs include G1EOD I8SAT and ZL1AMM. Sincere thanks to one and all.

CW SWLING WITH ERIC L30042

21 MHz

FO0XX JA1DOP JG2ATO, JA3CXQ JI1NQN JH6AAT, P29PR, VK2VR VK2BFJ. VK2PUG, VK4KF W8THN. Y92BNJ, ZL1BSG.

14 MHz

A35EA, BY4AA, DU1ROJ, KA1BAZ/DV1, DL2XR EO3ALS, EO0ALW F8AH, FK8FF FO0DX, FO0XX, HL1CG, H44IA, KD4X/KH2. KH6IHY KC6MR/KX6, I4TSB. P29PL, T30AT, UB5ECJ, UC2WJ. UL7CAR. UO5GQ, VI3BCY. XE1VE YJ8TT, YJ3NR, ZS1CS.

7 MHz

DJ9GD EA5CHT. FD6IRQ. G2MJ, G3XDK. HB9CTA, JH8NAM 6Y5FS/KP1 OE5BOL. OK1DAV. OK2BJH P29PR, KO2X W1AQE W2UGM, W3ORU, N4SU, WA5ZXZ W6UO/ WA7OBY, W8KMX KY9L

7 MHz

3D2CU. A35EA, CT2FN. DL1BQ, EA3ALV. EW1AA, FD1JOA, FE8VN FO8HO. FO0XX, G6RJ. H89CYW HG4OB I5LF JH5EES/JD1, LZ2EV, NP4MO. ON4GN, SM0DUX, SP5BWO, UO0IDA. UZ1AWX UC1WWF UL7PGA, YC0BRX, Y65LMM. VU2IOC ZK1XU

3.5 MHz

KX6DS. LZ1KAB, OH1JT OH1LQ OH1XX, SM0AGD/3B8.

1.8 MHz

K9UWA, N4SU, P29PR VK2BAT. VK3DFI, VK4ATS, VK5BC, VK6HD, VK7BC, W3RCQ, W8JI, ZL3GQ

AR

VHF UHF - an expanding world

Eric Jamieson, VK5LP
1 Quinns Road, Forreston, SA 5233

All times are Universal Co-ordinated Time and indicated as UTC

AMATEUR BANDS BEACONS

Freq	Call sign	Location
50.005	H44H R	Honiara
50.006	JA2IGY	Mie
50.075	VS6SIX	Hong Kong
50.109	JD1YAA	Japan
51.020	ZL1LHF	Mount Climie
52.033	P29BPL	Lolosis Island
52.100	ZK2SIX	Niue
52.200	VK8VF	Darwin
52.250	ZL2VHM	Manawatu
52.300	VK6RPH	Perth
52.310	ZL3MHF	Hornby
52.325	ZL2RHV	Newcastle
52.350	VK6RTU	Kalgoorlie (1)
52.370	VK7RST	Hobart
52.420	VK2RSY	Sydney
52.425	VK2RGB	Gunnedah
52.440	VK4RTL	Townsville
52.450	VK5VF	Mount Lofty
52.465	VK6RTW	Albany
52.470	VK7RNT	Launceston
52.490	ZL3SIX	Blenheim
52.510	ZL2MHF	Upper Hutt
144.019	VK6RGS	Busselton
144.410	VK1ROC	Canberra
144.420	VK2RSY	Sydney
144.465	VK6RTW	Albany
144.565	VK6RPB	Port Hedland (2)
144.480	VK8VF	Darwin
144.600	VK5VF	Mount Lofty
145.000	VK6RPH	Perth
147.400	VK2RCW	Sydney
432.057	VK6RBS	Busselton
432.160	VK6RPR	Nedlands
432.420	VK2RSY	Sydney
432.425	VK3RMB	Ballarat
432.440	VK4RBB	Brisbane
1296.171	VK6RBS	Busselton
1296.480	VK6RPR	Nedlands

(1) According to 'The West Australian VHF Group Bulletin" VK6RTU is being overhauled and a 2 metre beacon with a tripler to 70cm is being constructed as an addition to VK6RTU.
(2) From the same source, it is noted VK6RPB at Port Hedland is under test and may be intermittent. It is also audible on FM receivers!

There has been some pruning of the beacon list this month. VK and ZL beacons are listed, plus the Pacific regions and JA beacons. With the present very low spot in the Cycle it would seem a listing of beacons in other areas would be more appropriate at the periods of the equinox, when it seems there is a chance for the longer distance contacts to take place. Therefore for the time being it is proposed to give a complete listing in the issues of September and March

NEWS FROM THE COLD AREAS

David VK0CK has left Macquarie Island and will be resident in Hobart until the end of 1985. He came back to Adelaide for a brief stay and I was able to meet him and he certainly doesn't look any the worse for the experience! The six metre equipment is still at Macquarie so hopefully there will be some operating from there later this year. David would like to do another tour to the cold areas, so we may yet see him operating six metres again from some other place.

Mark VK0AQ (ex VK5AVQ) is safely entrenched at Mawson in Antarctica and enjoying the experience. It is certainly much colder than Macquarie Island. Sunday 14/4 it was −20°C and on some days they have been experiencing blizzards. After making some changes to the positioning of the 20 metre aerial Mark can now operate more satisfactorily on his skeds with me, not now causing the degree of interference as before. There are some problems with enough 240 volt power to run everything satisfactorily from the shack but he hopes to overcome this in due course.

Mark has had the VK0MA beacon running, firstly on 53.1 MHz and later 52.400 but there are some problems getting the gear to fire up on this frequency but he's working on that. The beacon uses a 6AK5 oscillator 5763 doubler driving an 8165 (4/65) valve in the final for about 100 watts output, and the mode is MCW and has a built in solid state call sign generator.

The immediate concern for Mark is to become operational on the satellite and now that the remainder of his gear has arrived he will be concentrating on achieving that operation. He proposes leaving the main bulk of the work on six metres until later in the year when chances exist for some contacts on that band.

The Mawson weather summary for February 1985 is interesting. The mean monthly temperature was −05.2° (0.8° below average), maximum −02.3°, minimum −08.1°, highest maximum +02.8° (1/2/85), lowest minimum −17.3° (28/2). Maximum wind gust 63 knots/117km from SE at 1616 MBT on 13/2, there were 23 days with strong winds with 7 days of gale force winds! The mean daily average of sunshine was 9.7 hours, there were 4 days with falling snow and one day of blizzard. The remarks mention that the −17.3° on 28/2 was the lowest minimum temperature for February, the lowest previously had been −16.0° on 25/2/68! So it does get cold down there and no doubt will get colder than that.

NEWS FROM TASMANIA

A letter has come from David VK7DC accompanying QSL cards for the contacts I had with him in January on 144 and 432 MHz. David says:

"VK7DC and Gary VK3ZHP have been maintaining regular skeds on 70cm for the past 15 months over a path of 385km. Contacts have varied from 5 x 3 to 5 x 9 and can drop to 3 x 1 during rough weather, when there is rapid fading not unlike continuous mobile flutter, and can last for 6 to 8 days. TVI problems with Ch5A do not allow VK7DC to make full use of two metres.

'Andrew VK7ZAP and I have built up some 1296 MHz gear. Andrew has 1 to 2 watts FM/CW and can receive in all modes, a 15 element Yagi and has a two metre diameter dish under construction. VK7DC has 10/12 watts FM/CW, all mode receive and 1.8 metre dish. Experiments to date with VK3ZHP have produced at worst weak CW copy both ways and recovered audio sounds like you are listening at the other end of a drain pipe! When conditions are more normal, the carrier is usually strong and produces occasional FM quieting, but it will be interesting to see what happens over 12 months. At the same time 70cm has occasionally produced signals better than 2 metres especially during October and November.

"On 28/3/85 VK7ZAP on 70cm SSB worked VK3ZHP, VK3ZBJ, VK3BDL, VK3ZL, VK3ACH and VK3XEX. On 1296 FM: VK3ZEO, VK3ZYN, VK3ZHP.

"On 28/3/85 VK7DC worked on 2 metres SSB: VK3ZHP, VK3ZBJ, VK3BDL (all 5 x 9), and VK5NY 5 x 3. On 70cm SSB: VK3ZH, VK3ZBJ, VK3BDL, VK3ZEM, VK3ZL, VK3XEX, VK3ACH (all at 5 x 9), VK3CGH 5 x 7, VK5NY 5 x 5. On 23cm VK3ZHP 5 x 9 FM, VK3ZBJ 5 x 3 FM, VK3ZL in Ballarat 5 x 1 CW. This was followed on 31/3 with 2 metres to VK5NY by VK7DP and VK7DC, 5 x 2.

"QUERY: On 1/4/85 I (VK7DC) noted VK3RMB on 70cm at 0730 was just audible which was normal. At the same time there were strong lightning crashes and with almost every crash the beacon would rise to S9 for about 1 second. At 1030 the beacon was the same strength, but this time there was no enhancement with the same lightning crashes.

"Was there an increase in ionisation of the air at the moment of strike, or extra ionisation of the 'E' or 'F' layers, or something else? The weather at the time was 'lousy' and I assume the storm centre was between me and the beacon. Perhaps it had moved later. Has anyone any ideas, and have they observed this phenomenon?" Can't really help you David, but lightning plays some funny tricks at times. Someone might write to me about it though. 5LP

Still in Tasmania, a letter has arrived from Joe VK7JG who mentions he was not very active on 6 metres over Christmas but was still holding nightly skeds on 144 and morning skeds on 52 with VK3.

"I still have nightly skeds with David VK3AUU on 144.1 at 2000 local time (1000 UTC) and we have always been able to say 'hello' when both are there. I have also been trying to work the VK1 and VK2 stations on Saturday mornings in conjunction with the VK3s but so far nothing heard except for a few meteor pings. Obviously the antenna needs upgrading!

'There is now a UHF repeater in the Central Highlands with the call VK7RIW transmitting on 438.5 and receiving 433.5 MHz altitude 4200 feet, antenna 6dB gain and power 15 watts.

"Lionel VK7HL is operational on 1296 MHz and 2.3 GHz and has worked to VK3 on both bands. He lives at Beaconsfield, about 50km north of Launceston.

'My present antenna system is 432: 48 element J Beam, 144: 10 element J Beam, 52: 8 element ATN Yagi. Looking to upgrade 144 to at least 16dB."

MICROWAVES

Des Cliff VK5ZO has sent me a copy of the RSGB's Directory of Microwave Operators which rather puts to shame the degree of activity in VK. There are 350 entries in the directory with call signs, addresses and bands on which the operator can operate. There are quite a number with gear on 1.3, 2.3, 3.4, 5.7, 10.0 (wide), 10.0 (narrow) and 24 GHz. Twenty six stations can be operated on four or more microwave bands.

Des suggests one possible way of increasing the activity on our microwave bands would be to compile a list of those who can operate 2.3 GHz and above, with updates from time to time. To start off, Des offers the following: Operational FM gear on 3.3 and 10 GHz and currently rebuilding the FM gear for 2.3 and 5.6 GHz. His current thoughts and actions are to use 100 MHz (Tandy FM tuners) IFs of about 100 kHz deviation for 2.3, 3.3, 5.6 and 10 GHz, the first two being crystal controlled, the other two being Gunn oscillators. For DX contacts on 10 GHz he has a 30 MHz coverage and can work anywhere in the band to suit anyone else.

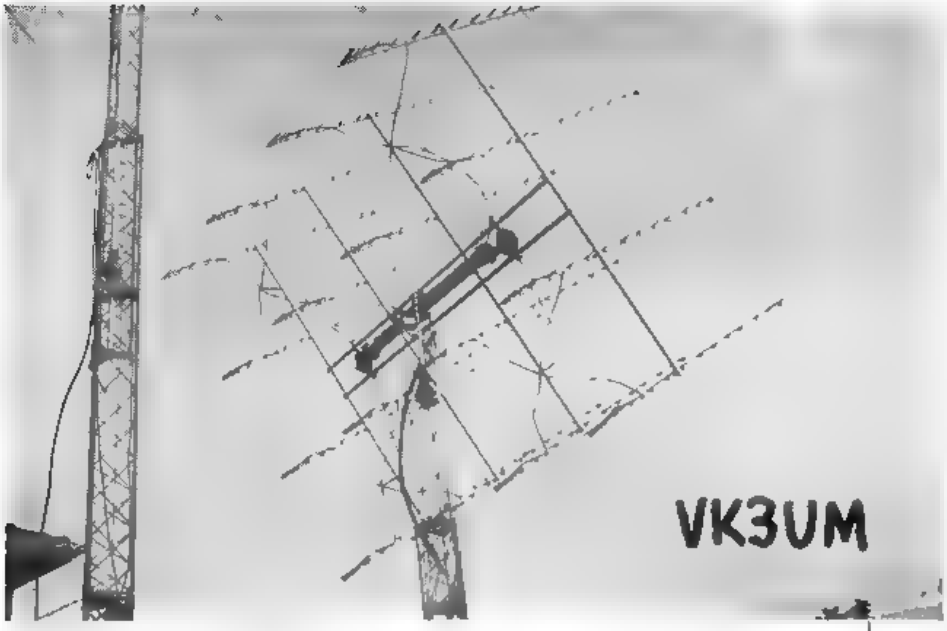
All these sets are /P and any gear possibly made for SSB will not be! He personally feels there is not enough interest in any of the bands in VK to fragment the current position by introducing anything else but FM. To support this Des already has two sets of gear for 3.3 and 10 GHz and will possibly finish up with two sets on the others channels.

If you are interested in outlining your microwave equipment why not contact Des Cliff VK5ZO, 6 Netley Road, Mount Barker, SA 5251, and if Des finds there is enough interest to make a listing worthwhile, then I am sure space can be found in these columns to inform you what other people are doing in an area where there seems to be very little activity but where there may be much more than appears on the surface. Over to you!

EME ACTIVITY

Doug VK3UM advises that conditions were rather poor over the weekend of 30/31/3, but he did manage the following contacts: 0530 K2YUH 559 and 559; 0553 ZL3AAD 0/0; 0623 JA2JEJ 0/0; 0725 JA8CZD 0/0 - there appeared to be only five stations on, no one from W land. 1125 F9FT 539 539; 1213 I5MSH with his 10.6 metres (35 feet) dish was 0/0 contact, usually is SSB copy; 1252 F1HI 0/0. In all there were 10 contacts for a long time spent. He valiantly spent an hour trying to make it with OZ7UHF but to no avail. Next period for trying was to be 27/28/4.

Doug is still maintaining his 144 and 432 MHz contacts to Sydney, and on the way picking up stations in Canberra. He has found signals are stronger on 432



VK3UM EME Equipment.

Transmitter:	ICOM IC-451A.
	Tokyo HY-Power HL-90U
	K2RtW type Linear 2 x 4CX250B.
	1000 watts at Transmitter Output.
Receiver:	MGF 1202 Feed Pre-amplifier
	MGF 1202 Shack Pre-amplifier
	Microwave Modules Converter to 28 MHz.
	ICOM IC-720 with narrow CW filter
	MFJ-252B Audio Filter
Antenna:	16 x 16 element ATN (KLM design) 12.5 ft Yagis.
	Spacing 5 ft (H) x 4.5 ft (V).
	Phasing to all 5 power dividers in Belden 9913.
	Feed to Shack 3/4" Foam Heliax (19 metres).
	Gain 26 dBD. Sun noise 12 dB (quiet)
QTH:	145 19 06 E 37 45 00 S Grid Square QF22PG

but the duration is shorter than on 144. John VK4KAZ is using four DL6WL type antennas and has been able to copy Doug's EME signa

THE SYDNEY SCENE

was pleased to hear from Gordon VK2ZAB again, and as usual his letter contains a lot of information. He appeared to be disappointed that no one else had bothered, apart from VK3UM to send any news of happenings on 144 and 432 from Sydney, or anywhere else for that matter. Gordon has been pretty busy since Christmas, what with getting up a new tower, jobs away etc, but he assures me that he cannot recall any weekend that it has not been possible to have two-metre contacts between Melbourne and Sydney, there have been 70cm contacts too, plus 23cm contacts to ZL, all now dated of course, but they have been occurring.

Gordon's letter covers the period 16/2 to 16/3/85 and on two metres unless otherwise stated. On 16/2 2045 VK2EVB and VK2DGT both at Coffs Harbour were 5/2 and 5/5 respectively at his QTH. At 2055 VK2DDG at Byron Bay was 5/4 and VK4LC was heard faintly. At 2130 VK3KEG was 5/5. VK1GL and VK1BG participated and some 70cm activity ensued with VK2OD on that band in Sydney but no Melbourne contacts. During the following week VK2MO in Moree and VK2AKU in Narrabri were worked from Sydney on three occasions. Signals S1 to S5 at the Sydney end.

On Saturday 22/2 at 2030, Graham VK2MQ was 5/4 later VK2DDG also 5/4 and at 2046 Bill VK4LC was 5/1 and Paul VK4AJR and John VK4KJL both in Brisbane were 4/1 briefly. VK2DGT was 5/5. At 2130 Ross VK2ZRE in Adaminaby was 5/5 and Trevor VK3KEG was 5/2. Other stations on at the time were Keith VK2BKL in Sydney, Glen VK1GL, Joe VK7JG, Les VK3ZBJ, Jim VK3AZY and Ian VK1BG.

Several Field Day stations were worked on 23/2, the Wagga group again putting in good signals. VK2WG was 5/5 at 0642. VK3KZR was 5/3 at 2148 from a site near Dargo. Earlier VK2DDG was 5/2 in Sydney. The following week was fairly quiet with the exception of the usual 'S meter' wrecking signals from VK2YEZ portable at Foster.

On 1/3 at 2045 VK2DDG was 5/2 with VK2EVB 5/3 at 2047. VK4LC and VK4KJL in evidence, but only just. To the south west things looked brighter, but VK2ZRE at Adaminaby was only 5/2 and hopes faded. Next morning he was 5/5 and Les VK3ZBJ was 5/4 at 2230. Unable to copy Michael VK3BDL but Lionel VK3NM was 5/1 5 at 2246 and Jim VK3AZY 5/5 at 2247. Try 432 was the message from Doug VK3UM via the VK1s. But Gordon didn't have to try very hard as Doug was 5/6 at 2249! VK2ZAB was 5/3 in Melbourne which clinched their fourth Melbourne/Sydney 70cm contact. Gordon heard contacts being made between VK1 and VK3 on 70cm, and heard VK1GL, VK1ZIF, VK1BUC, VK2OD and VK3UM.

The weekend of 8/3 started well with the boys in Coffs Harbour and Byron Bay at good strength on 2 metres and Paul VK4AUR hearing Gordon at S1 in Brisbane at 2150. At 2230 on 8/3 VK3KEG was 5/2 at 2243, VK3ZBJ 5/3 at 2258 and David VK3AUU at Drouin South 4/1 at 2259. He was unable to contact VK3AZY, VK3NM and VK3BDL although he knew they were there.

Gordon got his rewards on 15/3 when at 2132 he worked VK4LC at 5/5, John VK4KJL 5/4 shortly after, Paul VK4AUR 5/3 at 2135, Graham VK4KGS 4/1 at 2150. About this time VK4LC was 5/7 so 70cm was tried and there he was at S2 with QSB. Gordon's 10 watts couldn't quite make it to Brisbane so Bill was unable to make it two-way, but he did hear VK2BE in Sydney, but no two-way contact resulted. Beam around to the south west at 2230 and Doug VK3UM was 5/3 and Lionel VK3NM 5/2. Listen and call on 432.1 but no joy except for VK1BUC off the back of his beam. Peter VK1QS worked Norm VK3DUT on 2 metres.

Beam around to the north again at 2300, Bill VK4LC was still S7 on 2 metres. Try 432.1. Yes, can hear him up to S2 but no contact. Then Dick VK2BDN came on and made what we think is the first Sydney to VK4 contact on 70cm by working Bill at 5/5 both ways. Bill patiently waited until Gordon's 10 watts peaked above the noise and at 2332 they exchanged reports to clinch the contact 5/2 at his end, and 3/1 at Eagle Heights Brisbane. Well done chaps — this would be an all land path of about 750km and over some rather rugged country — 5LP.

On 16/3 VK4KJL, VK4ALR and VK4LC were there again on 2 metres at 2130 but only S1. VK2EVB was 5/3 and VK2DGT 5/6. Beam south west at 2230 and Les VK3ZBJ 5/2. Other VK3s heard but not identified. Later, Peter VK1ZQS told Gordon he had worked Darryl VK3AOR at Geelong and Norm VK3DUT at Mill Park. However, John VK2YEZ back home in Griffith was S6 at 2240. Many stations on 2 metres and 70cm in VK1 and VK3 and a few in VK2 at this time. Gordon also had received reports of various VK/ZL contacts on that weekend via repeaters etc on the south coast, and that Ken VK2DGT in Coffs Harbour had an FM contact with ZL. For all that Gordon says the elusive VK7 still evades him, but he's trying. Well Gordon, VK7 eluded VK5LP for a long time on two metres, and still longer, nearly 25 years in fact for a 70cm contact but did have one to VK7DC in January so with your tenacity you will surely make it in due course. But thanks for writing and filling us in with the continuing happenings on 144 and 432 from Sydney, and wouldn't it be nice to hear from someone else over your way on how they see the scene!

A NOTE FROM BRISBANE

John VK4ZJB sends me a note which will warm the hearts of some six metre operators who have been waiting for a particular QSL card. John says Gary A35GW is now OK for a QSL. Send a SASE to Gary Wilson, Bucknor Drive, Deception Bay, Queensland 4508 and you should receive your reply.

John also mentions Nev VK4ZNC is definitely going to Lord Howe Island next Christmas and it will be a 6 metre DX-pedition. Bookings are final and more details are to follow. Thanks John, good news all round.

WHAT HAVE WE BEEN DOING

Here in VK5 we have been getting the winter doldrums in the autumn. It certainly has been quiet, even Bob VK5ZRO says so and when he's not working stations it's quiet! Bob still keeps track of things via the satellite and recently worked ZF1GC in Cayman Islands, CN8EO Morocco, PJ2MI Netherland Antilles and the Clipperton Dx-pedition FO0XX. He was also pleased to have words with Bob VK5NZ who was in Florida, USA via the satellite.

Ron VK5ZVA at Whyalla is now on 70cm but presently vertically polarised, but he did work VK5ZRO at 5/7. Roger VK5NY has been noted working to VK3 from his 'gem' location, it doesn't seem to matter what time of the day or night the path is there, particularly on 2 metres.

The VK5LP log book shows only a few local VHF contacts so I have had to be content working VK0AQ at Mawson on 20 metres!

NEWS FROM OVERSEAS

From April QST and "The World above 50 MHz" I note a listing of the 23cm and 13cm standings and a few points of interest arise. On 23cm the best terrestrial DX in statute miles is that of N6CA with 2472 miles and 10 call areas worked. One assumes that distance is out to Hawaii. The next best distance drops to 847 miles where there are three stations K4NTD, K5LLL and W5LDV, all with 2 call areas worked. On 13cm WB5LUA has worked 508 miles and 2 call areas, next is W9ZIH at 340 miles and 2 call areas. Apart from the N6CA effort we in VK with our contacts from Adelaide and the south east to Albany in WA are well in excess of these distances. Nevertheless, one must be fair and say there has to be someone at the other end before you can extend any contact distances and I expect the W stations suffer from that the same as we do when we look to other areas than Albany.

While on the subject of standings, I note from "The

Shortwave Magazine" for February 1985, kind courtesy of Steve VK5AIM, that on two metres GW4TTU leads with 92 counties, 37 countries, followed by G1EZF with 83 and 28, then G6ECM with 79 and 28. It is worth noting the wide availability of two metres in Europe when one considers it is possible for someone to work 37 countries and I expect that is not the end of the road, there would still be more to work. No wonder two metre activity is so great there.

The 70cm table shows G8TFI at the top with 63 counties and 18 countries, followed by GW4TTU with 61 and 16, then G6DER with 61 and 14. One would have to say 18 countries on 70cm is a very worthwhile effort. On 23cm G8PNN tops the list with 36 counties and 13 countries, followed by G8TFI with 32 and 12, then GW4TTJ with 29 and 8. And 13 countries on 23cm deserves praise for the obvious dedication needed to achieve that total. Even more to the point of dedication is the efforts of GW4TTU who heads the list on two metres, is second on 70cm, and third on 23cm. What an effort? Not only that, GW4TTU also tops the Annual CW Ladder for working 493 different stations on CW during 1984 on 2 metres, 104 on 70cm and 32 on microwaves. CW Total 629 different stations on VHF/UHF CW. G4SFY worked 553 stations and G4ARI 416 stations. This must mean that almost at any time there will be someone on those bands using CW. Quite different from VK where you could go weeks or months before you heard any CW at all!

MOONBOUNCE REPORT

From "The Propagator" Lyle VK2ALU advises that during the 12 months to end of February 1985 VK2AMW participated in a total of six 1296 MHz EME test periods, during which contacts were completed with 15 stations on CW. SSB signals were copied from OE9XXI on one occasion. Several receiving preamplifiers were tried and three methods of noise figure optimisation were used to improve receive system performance.

Dish pointing accuracy was markedly improved by the installation of an hour angle tracking computer designed and built by a University Undergraduate to their specifications. It provides a readout of error in degrees between the actual dish pointing direction and that of the moon, in hour angle and helped to achieve echoes from the moon when it was not visible due to cloud cover etc.

On 2/3 they participated in scheduled EME tests during which SM6FHZ and G3LTF were worked M/O copy. They were pleased with the G3LTF contact as several previous attempts over the past fourteen months had each just failed to achieve the necessary information transfer in the short "windows" available to them.

CLOSURE

That seems about it for this time, but before closing I want to add a further plea for people to respect what the calling frequencies are for. Three main calling frequencies presently exist, 52.050, 144.100 and 432.100 MHz, and I often receive complaints from operators that local QSOs are being conducted at length on these frequencies mainly under the mistaken impression that because those using the frequency cannot hear anyone else then they assume no one else can either. I have received a further two complaints this month, from Doug VK3UM and Gordon VK2ZAB. In each case they are finding 144.100 and 432.100 being cluttered by long local QSOs so precluding the DX type contacts they are consistently chasing. I assure them it is not only happening in VK3 and VK2 but it is quite evident in VK5 as well.

May I again ask operators to remember what the calling frequencies are for, to call and when answered particularly signals are strong or from stations near at hand then to move off at least 20 kHz, conduct the QSO and then come back to the calling frequency if you need to. If the contact is conducted under very weak conditions then it may not be possible to move away in which case other operators should respect the situation. I guess one of the more important aspects of any such operating which is not being observed by most operators is that of leaving at least a 3 second break between transmissions. This does allow someone else to acknowledge they can hear what is going on, and you can allow them in or to complete their own quick QSO with another station. If you don't think any of this matters then consider how you might feel if you can just hear a weak DX station under another two stations much stronger who are just chatting. A general clean up of operating practices would help everyone. Thank you for your co-operation!

Closing with the thought for the month: "By ever taking out and never putting in one soon reaches the bottom." 73 The Voice in the Hills.

AR

INTRUDER WATCH

Bill Martin, VK2COP
FEDERAL INTRUDER WATCH CO-ORDINATOR
33 Somerville Road, Hornsby Heights, NSW 2077

Congratulations to the Department of Communications for the good work done recently to rid the VHF repeaters of unwelcome pests, which, I must add, is not the province of the Intruder Watch, who is concerned with MILITARY, GOVERNMENTAL and COMMERCIAL intrusions.

All intruders cannot be tempted to leave the amateur bands in spite of the work of the Intruder Watch, as the presence of Radio Tirana, Radio Beijing etc will testify. The DOC has complained on our behalf in the past re these nuisance transmissions, but the offenders continue to ignore repeated requests to QSY. More recently, of course, as reported in this column (AR, May 1985), the USSR Naval intruder 'UMS' was approached via the USSR Administration, and promised to 'take steps' to vacate the amateur bands. At the time of writing, UMS is still being monitored at will, and the DOC tells me that they are going to follow-up their original telex to the USSR. Many thanks to the DOC for sticking with us.

In this column in AR, January 1985, I mentioned the fact that Don Cross, formerly VK2VYI, had up-graded to the combined call of VK2JYI. I am pleased to report that Don's recent intruder reports to this shack were wearing the call sign of VK2EYI, so Don has done it again! Don is "wheel-chair mobile", and I know that he must have put a lot of effort into the upgrade — well done, Don.

Hopefully the conditions on 80 m will have settled down somewhat by now, and the Intruder Watch Net on 3.540 MHz at 1000 UTC will see more interested people joining in.

Looking through the IW Summary for February last, I see a CW station, AQP4/5/6/7 active on 14.011 MHz. This station is listed as Karachi Naval Radio, Pakistan, and I hope he's not moving in on us. Most of the stations signing with a three-letter call beginning with 'V', you will find, are based in Vietnam (eg VRO) and they are not above using VK-allocated calls.

Many thanks for recent reports received from VKs 1NET, 2BQS, 2DEJ, 2EYI, 2PWS, 4AKX, 4BG, 4BTW, 5BJF, 5GZ, 5TL, 7LR, 7RH, 8HA, 8XX and SWLs Arthur Bradford and Peter Boskos. Nice to know we can depend on regular help from people such as these and others.

The Wednesday evening 1030 UTC 3.540 MHz IW net has been good lately, with stations on from VK2, 4, 5 and 7. Col VK4AKX reports that UHF3, a nuisance intruder, seems to have effected his seasonal change, and left 40 metres in favour of some non-amateur band, which is good news, but Col hastens to add that he will probably re-appear about August next.

Amazing the number of intruder stations which have a call sign beginning with the letter 'U' — I have 58 listed here as already-reported intruders on the various amateur bands. We can well do without these. Anyway, we'll just keep sniping away at them, and see what happens.

Please lend a hand by supplying reports of intrusions into the amateur bands, and reinforce the work done by our regular helpers. Any information can be obtained by writing to the address at the top of the column, or ringing me on (02) 477 2717, or get in touch with your Divisional Co-ordinator, whose particulars can be found either in the Call Book, or from your Divisional Council. See you in July, and keep the rig warm.

AR

In reference to Electrical Safety in the Amateur Shack – p31 May. It has been pointed out that fusing in the neutral as indicated in para 6b is contrary to the SAA wiring code throughout Australia and may actually introduce a shock hazard.

MAGAZINE REVIEW

Roy Hartkopf, VK3AOH
34 Toolangi Road, Alphington Vic 3078

(G) General. (C) Constructional. (P) Practical without detailed constructional information. (T) Theoretical. (N) Of particular interest to the Novice.

SHORT WAVE MAGAZINE. Jan 1985. VMOS 80 Metre Transmitter (C&N).

SHORT WAVE MAGAZINE. Mar 1985. Feeders and ATUs. (P&N) T and PI circuits — standard resistor values. (P)

VHF COMMUNICATIONS. Apr 1984. Color Test Image Generator. (P) PLL Delay Line Oscillators. (T)

HAM RADIO. Jan 1985. Basic Gamma Matching. (T&C) Interdigital Bandpass Filters. (P&C) PIN Diode Switching. (P)

CQ-TV 129. Feb 1985. 1.3GHz Preamp. (C) Sync Processor. (P) SSTV Transmit Converter. (P)

WORLDRADIO. Mar 1985. General Amateur World News. Amateur Vacation Exchange. DX and Contest News. Satellite News. (G)

FOX TANGO NEWSLETTER. Apr 1985. News of mods and problems on all Yaesu equipment. Hard to get parts available to subscribers. *WARC* conversion kits.

NOTE. If you have a FT101B and find the final standing current varies or fuses blow for no apparent reason, take quick action or you may blow up the hard-to-get 6JS6C finals. C13, an 80pF coupling capacitor from the plate of the 12BY7 driver has a habit of leaking or shorting with disastrous results. Replace it with a modern high voltage ceramic. The value is not critical.

(Contributed by Tom Ward G2FKO to the FT Newsletter.)

SATELLITE JOURNAL. Jan-Feb 1985. Issue 1 from AMSAT. To be the new journal of the Radio Amateur Space Programme. PO Box 575, Wharton, NJ 07885 USA.

Your best friend could be our next member. Persuade them today to join . . .

EDUCATION NOTES

Brenda Edmonds, VK3KT
FEDERAL EDUCATION OFFICER
56 Baden Powell Drive, Frankston, Vic 3199

Education officers in each division should, by now, have received copies of the revised syllabuses for examinations. These revised versions will appear in the revised Amateur Operators Handbook when it is printed.

I have asked for comments on the changes that have been made, and I would be pleased to receive them. By the time this is published, the revised syllabuses should be available in brochure form, and I will have a supply to send out on request.

The changes in content for the most part have been fairly minor, but there has been a rearrangement of some of the sections to bring the two syllabuses more into line, which should make it easier for those attempting to upgrade.

The context has been left fairly broad, and a note has been included that candidates should be aware of current technological developments. This means that there is still room for the gradual evolution which occurred with the original syllabuses.

This evolution may not have been apparent to those not directly involved with class or exams, and not all readers may be in favour of such a broad scope in the syllabus.

However, when we consider the developments that have taken place since the original definitions of the syllabus — FETs, PLLs, ICs, digital readouts — we see that much of the current 'state of the art' is fairly recent, and it is fair to expect the incoming amateurs to be familiar with the equipment they will probably be using.

It is unreasonable to expect a syllabus to be reviewed more often than about every six-eight years. By leaving it broad, we have the means to ensure that candidates are made familiar with current developments.

Our intention now is for the Institute to develop a Study Guide to go with the syllabus, so that we can define the depth of the topics where they have not been specified and suggest items that should be omitted.

I would be very pleased to receive input on any of this — all or specific topics — or collect names of members who would be prepared to criticise the draft. I apologise to those who feel that changes should have been referred back to members before proceeding to publication, but as with most productions, time was limited and deadlines had to be met.

Those who would have liked to participate are most welcome to participate in the development of the Study Guide.

Of course questions on any topics that have been added or significantly extended will not appear on papers until the revisions have been widely published.

By the time you read this a new printing of the Amateur Operators Handbook should be obtainable. This is just a reprint of the previous one and will contain the original syllabus. It has been reprinted because of demand, to cover the needs of candidates until the revised one is available.

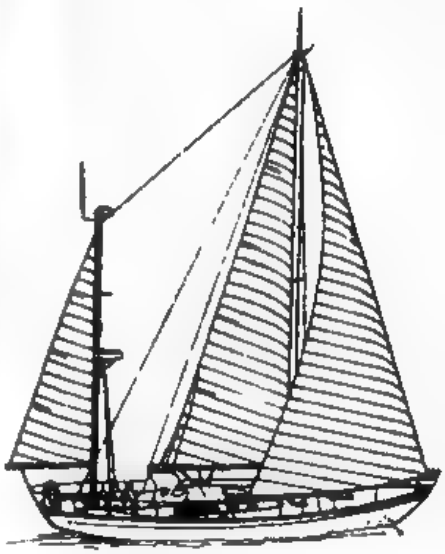
73 Brenda VK3KT

AR

Photograph courtesy The Burnie Advocate

From left — Jim Davis VK7OW, Yuko Sato, Bil's sailing companion since Tahiti, Bil N6APE/VK4FAZ and Ian Ellings VK7QF. Bil is holding the four-legged 'biting' deck-hand George who came aboard in Queensland.

AROUND THE WORLD BY YACHT



Recently, after ten years, Bil Culthurst N6APE/VK4FAZ/MM reached the half-way point of his journey around the world and Bil would not be surprised if it takes him another ten years before he sails into his home port.

Bil docked at Devonport's Mersey Yacht Club marina at 12.45 a.m. on 13th February in his custom yawl 'Concerto' and was greeted by a small group of Coastal amateur radio operators, two of whom have been following his progress with regular scheds for eight months.

Concerto, conservatively estimated to value $300,000, was designed by a successful America's Cup defender Ted Hood. Bil hopes to be in Perth in 1987 for the America's Cup.

Aboard are four transmitting and six receiving radios ranging from two hand-helds to a highseas SSB unit as well as amateur radio transceivers.

Information supplied by Ian Ellings VK7QF and the Advocate and Examiner Newspapers.

AR

1984 VK/ZL/OCEANIA DX CONTEST

OVERSEAS RESULTS

Jock White ZL2GX
NZART CONTEST AND AWARDS MANAGER

CW

ASIA

JM1LRQ*	10484
JO1ITV*	9484
JE1NWL*	4968
JA1BNW*	4224
JE1ARO	2610
JO1QZ	1102
JA1BSU	1008
JH1MTR	644
JA1BN	420
JL1CGT	270
JA1AAT	160
JA1JGP	60
JA2YKA*	672
JA2BP*	9696
JE2IEQ*	5148
JA2DN	1638
JH2CJW	792
JR2AQF	154
JA3YBF*	8800
JA3YOD*	18144
JR3BOT*	5478
JA3UCO*	3288
JA3ARM	1920
JJ3JJL	1512
JR3WXA	220
JN1ENK/3	128
JA3BCT	108
JR3XEX	45
JH4IFF*	8148
JA4ESR*	1554
JR4ISK	1092
No "JA5"	
JH8ZHF*	13035
JA8AD*	8360
JA8GU*	6790
JH8WLP	4216
JS8AAT	2754
JA8GGD	2084
JH8ECK	1561
JA8LDD	610
JA7YFB*	7760
JH7WKQ*	6800
JA7YCO*	4176
JA7ARH	2112
JA7KM	1116
JA7CVC	810
JA7YFH	128
JA7CYM	120
JA7FFN	100
JR8CJZ*	7372
JA8CAO*	5832
JA8RYL*	8200
JA9FT	680
JH9CAV	84
JA0CGJ*	3480
JA0NCE	50
VU2JXO*	1872
9V1TL*	7440
9V1WH	8

NORTH AMERICA

TI4BGA*	1584
VO1AW*	126
HP1XKR*	1536
K1AR*	4278
KF1Z*	4004
WA1FCN	224
KW2J*	144
K3ZO*	4002
W5OB*	2816
K5TA	456
KA7T*	266
W9SE*	378
K9VKY	170
W0KEA*	9720

OCEANIA

5W1EJ*	32422
ZL7OY*	37620
FK8FA*	1302
YC2FEA*	5904
YB4FN	check

EUROPE

DL1SV*	812
DL3RD*	440
DL8KJ	252
DK7SU	240
DA2EBF	120
DK5OS	check
EA2CR*	126
EA2IA	72
EA5DJH	18
G3WPF*	1224
G5MY	360
G3KSH	32
HB9BOU*	1350
HB9IK*	1190
HB9CJH	528
HB9DX	456
HB0NL	286
HA7RB*	352
HA4YO*	120
HA4DX	32
HA5EA	check
HA5FA	check
OE1TKW*	2
OZ2E*	180
OH4ML*	1368
OH2YF	60
OK1AWD*	2358
OK3ZMV*	945
OK2BSG*	405
OK2ABU	333
OK1DBM	299
OK2BCI	120
OK3CEM	108
OK2BFX	110
OK2BBJ	50
OK2KOZ	18
OK1DMP	8
OK1KZ	8
OK1US	check
OK1XJ	check
PA0TA*	2
PA3DKX*	2
SP5CJO/5*	580
SP8CDP	check
SP9AKD	check
SM4CMG*	1596
SM7ANB*	1066
YO3CD*	440
YO3CR*	252
YU4EZC*	64
LZ1KHY*	6
LZ1HY*	2
Y22JD*	3920
Y36YM*	154
Y33VL*	108
Y27GLA	60
Y54UA	60
Y24YH	48
Y22WFM	40
Y22WF	18
Y58SA	18
Y62QN	18
Y22UB	check
Y37ZM	check
Y55XL	check

ASIA — SWL

JA4-30124*	10488
JA7-8347*	5984
JA8-3769*	260
JA1-23273*	96
4X4-1682*	180

SWL — EU

BRS44083*	744
DE8AAM*	8
OH6-145*	182
OK3-13095*	384
SP-0288-LU*	24
SM3-5384*	288
Y2-6405-N31*	522
Y2-6698-F61*	90
Y2-16841/G63	32
Y2-9540/A55	12

PHONE

ASIA

JA1ZOT*•	12400
JA1RZN*	3584
JE1ARO*	2900
JP1TRJ*	1280
JL1KOO	528
JG1WIC	240
JO1MCC	160
JP1SRG	144
JA2YKA*•	9576
JE2IEQ*	7412
JA2BNN*	6318
JH2KKW*	5472
JR2BPV	3024
JA2ATE	1848
JR3BOT*	9916
JA3YOD*	7644
JA3VXH*	5104
JR3WXA	1554
JJ3JJL	1440
JI3IMG	24
JA3HDF	4
JA3COA	check
JH4IFF*	15456
JA4ESR*	2900
JA4CUU	1260
JA5AHH*	3720
JR5HCU	300
JA6YAI*•	41440
JA6LDD*	4692
JA6EFT*	2068
JA6GGD	936
JS6AAT	690
JA7YFB*•	23028
JA7YCO*	4176
JH7DNO*	34160
JA7YFH	1560
JE7AWN	72
JA7FFN	50
JA8YAU*	16144
JE8CIS	1530
JA9RYL*	1776
JA9CAV	140
JA0VHI*	12054
JA0COL*	9718
JH0XUP	60
JA0GZ	48
HL1ABR*	1932
HL1APR*	1806
9V1TL*	928
4Z4VG*	2160

SOUTH AMERICA

PY5IW*	30
YV3ANG*	280
YV3ALK*	216
CE5CFR*	120

NORTH AMERICA

K1AR*	650
NB2P*	1040
K3ZO*	8576
W4MGX*	1080
K6SVL*	20500
WB7FOO*	2058
K7LXC	272
W9SE*	900
W0ZV*	35604
W0KEA*	15680

OCEANIA

5W1EJ*	122910

EUROPE

DL3RD*	90
EA5CKP*	60
EA3EGI	check
G5MY*	256
G3KSH	56
HB9CHR*	1261
HB9IK*	610
HB9BVV	294
HB8DX	196
HA4DX*	780
HA6NP*	550
HA4KYN	156
HA5FA	check
OK1WT*	224
OK3CSC	168
OK1DBM	4
OK1KZ	2
PA0ZH*	504
PA3CEF	352
PA3CZP	56
SP6DVP*	176
SP9KJT	84
SP0LOP	check
SM4CME*	1216
SM2CEW*	546
SM0KWD	18
SM6KMD	check
SM0MC	check
YO3CD*	198
YO2KHK	48
Y54VA*	2448
Y33TB*	616
Y23DG	288
Y58SA	112
Y54NL	42
Y22UB	6
Y22WF	2
Y23YE	check
Y53VL	check
OE1TKW*	2
OZ1ASP*	2
OH4ML*	2592
OH6IU*	1344
OH2AR*	660
OH7YF	306
OH7NW	240
OH1BV	182
OH4PW	120
OH2BMP	96
OH9UW	2
LA2AD*	504
LA3KBA	84
LA9SN	check
I4AVG*	492

USSR

SWL

UC2-006-43*	504
UC2-188-11	120
UB5-073-1610*	4740
[redacted]7	616
UA0-107-403*	1480
UA0-107 71*	1292
UA9-134-286	726
UA0-124-190	check
U1ZM*•	105
UZ4PZZ*•	2783
UZ4WWB*•	1328
UZ6AWJ*•	1066
UZ4FWO*•	6246
UZ3ZWF*•	1030
UZ4WWB*•	1023
UZ3DWH*	400
UZ4HWX*	320
UZ3DXW*	294
UZ1AWW*	150
UZ3WWW*	92
UZ4CWC*	35
UZ6HWY*	16
UZ4AXO*	150
UA9DT*	70

CW

UA1DZ*	3080
RA3EA*	1819
RA1AO*	1620
RA3DX*	1485
UA6AIR	1183
UA4PCI	1040
UZ3DD	804
UA6LCN	528
UA1ADY	495
UA6HRZ	66
UZ1AWW	16
UA1ZDW	check
RA3NB	check
UA3XBB	check
UA4HKJ	check
UA3AGW	check
UA4HNP	check
UA4PO	check
UZ3XWB	check
UB4IZZ*•	1938
UB4XWB*•	1342
RB5MF*	2160
UB5NQ*	1632
UY5OO	960
UB5VAA	120
RB5QP	70
UB5OKC	check
UB5UHE	check
UZ0CWO*•	6666
UZ0CWA*•	6169
UZ9SWY*•	5130
UZ0LWC*	4484
UZ0CWH*	3920
UZ0LWG*	960
UZ0AWB*	1326
UZ9FZZ*	686
UZ0CWE*	280
UZ9CWM*	check
UZ0JWC*	check
UZ0SWM*	check
UA0LCZ*	17520
UA0SAU*	9560
UA0ZBP*	3472
UA9URF	1332
RA9HA	832
UW0CM	540
UA9LF	280
UV9FB	check
RV9UV	check
UA9YGO	check
UA9OO	check
UA0ZC	check
UA9CE	check
UC1WWF*•	576
UC2AIG*	80
UC2AW	32
UC2ACT	18
UP1BWI*•	270
UP1BWW*•	84
UR1RWX*•	854
UR2RNO*	473
UR2FU	80
UF7FWW*	500
UF6DA	4
UO6CN*	400
UH8EWW*•	644
UJ8JA*	528
UL7CAA*	80
UL7PFH	2

PHONE

UV3CE*	2940
UA4PO*	2256
RA1AO*	893
UW4NN	624
UV3DN	378
RW3DW	279
UA1ADY	250
UA6XT	240
RA1AA	238
UA6LCN	132
UV3TE	check
UA6HON	check
UA1CT	check
UA3PB	check
UW4NH	check
UV3MM	check
UA4NC	check
UA6HRG	check
UA6HKN	check
UW3FW	check
UZ3XWB	check
UB4QWW*•	2016
UB4XWB*•	1083
UB4SWB*	949
UB4TWL*	check
RB5MF*	2040
RB5DX*	360
JT5GM	301
JY500	288
UB5VAA	231
RT5JO	check
UF7FWW	104
UD6GF	24
UZ9UZT*•	4860
UZ9SWY*•	3550
UZ0AWB*•	1696
UZ9FWR*•	1470
UZ0LWG*	570
RZ9UWH*	684
UZ9AWH*	552
UZ0CWM*	330
UZ0CWE*	210
UA0LCZ•	21168
UW0CW•	10745
UA9OO•	1292
UZ0CWA	1130
RA9HA	768
RA9OA	700
JW0CM	264
UA0CBB	80
UA9CS	24
UA0DAK	check
UA0JD	check
RV9UV	check
UV9FM	check
UA0ZBP	check
RA0SB	check
UA9XS	check
UA0CEZ	check
UM9MWO*•	200
RL6PYL*•	3060
UL7QF•	616
UL7TT	2
UI8CD•	666
UC1WWF*•	962
JC1WWR*	98
JC1AWF*	8
UC2AIG•	16
UP2BBF•	160
UQ2GM•	660
RR2RX•	530
UR2OI	210
RR2RR	check

*denotes Multi-operator or Club Station

Many thanks to a participants and to the many who sent a log even with only a few contacts. Much appreciated.

Certificates sent to those with

Numerous logs had incorrect scoring. For 1984 all contacts were TWO points and each OCEANIA call area was a multiplier. This was introduced to make the activity more interesting for overseas operators.

The 1985 VK/ZL/O DX CONTEST will be held over the first two weekends of October as usual. It is a SPECIAL EVENT as part of the 75th ANNIVERSARY of Australia's WIA. Your active participation to help celebrate this important milestone in amateur radio history is encouraged.

AMSAT AUSTRALIA

Colin Hurst VK5HI
8 Arndell Road, Salisbury Park, SA 5109

NATIONAL CO-ORDINATOR
Graham Ratcliff VK5AGR

INFORMATION NETS

AMSAT AUSTRALIA
Control: VK5AGR
Amateur Checkin 0945 UTC Sunday
Bulletin Commences 1000 UTC
Winter 3.685 MHz Summer 7.064 MHz

AMSAT PACIFIC
Control: JA1ANG
1100 UTC Sunday
14.305 MHz

AMSAT SW PACIFIC
2200 UTC Saturday
21.260/28.878 MHz

Participating stations and listeners are able to obtain basic orbits data including Keplerian elements from the AMSAT Australia net. This information is also included in some WIA Divisional Broadcasts.

ACKNOWLEDGEMENTS

The sole contribution this month is from recent UoSAT Oscar 9 Bulletins.

AMSAT-AUSTRALIA NEWSLETTER

Graham VK5AGR the National Co-ordinator of AMSAT-Australia, is now producing a monthly newsletter containing updated satellite news, orbits predictions, keplerian data and operating hints and techniques. The objective of the newsletter is to keep the amateur populous informed on the latest information available and to raise funds for the funding of projects or the purchase of an item (items) of hardware for a future amateur satellite project, eg Phase-3C, Phase 4 or whatever. The cost of the Newsletter is $15 and cheques made payable to WIA (SA Division) should be forwarded to Graham VK5AGR QTHR.

WHOLE-ORBIT-DATA (WOD) ON UO-11 (UOSAT-2)

The following summary was received on the Oscar 9 Bulletin recently and explains the significance of the WOD telemetry used on both Oscars 9 and 11. Our thanks to the UoS Team.

One of the regular features of the UO-11 transmission is WOD surveys carried out using the 1802 On Board Computer (OBC). The OBC has direct access to the telemetry system and can store selected channels away in memory over the course of an orbit, or several orbits, to be read out (dumped) later. This facility enables telemetry data to be collected whilst the spacecraft is out of range of groundstations yielding a more complete picture of the spacecraft's operations and characteristics than can be gathered from just a 12 minute visible 'pass'. Any number of telemetry channels may be monitored by the OBC in this way — the amount of data collected is limited only by the size of memory available to the OBC, normally 14k Bytes but an additional 32k Bytes are available if required. The WOD surveys have been mostly used for navigation and stabilisation analysis using the X, Y and Z magnetometer channels. The motions of the gravity gradient stabilised spacecraft tend to be very slow (hours) and therefore surveys of navigation data spanning at least one complete orbit and frequently several orbits are necessary to observe and measure what is going on. In addition to navigation surveys, battery, downlink, solar array and spacecraft temperature data are gathered somewhat less frequently to provide updates to the overall engineering profile of the spacecraft. As there is a limit to the size of memory available to the OBC for data storage, the surveys can be organised to monitor many channels over a short period or a few channels over a correspondingly longer period. Apart from routine surveys, the WOD facility has been used to support special events such as gravity boom deployment, special downlink configuration tests and will shortly be used to establish baseline current consumption measurements for the DCE memories. The WOD surveys are initiated by the UoS groundstation by sending the OBC an instruction containing the telemetry channels to be monitored — the sampling rate can be further varied by controlling the telemetry rate (300-2400 bps) — the downlink multiplexers are then generally switched to WOD dump automatically by the OBC once the survey has been completed. The time at which the survey was started (UTC), orbit no and channel nos are then included in the following UO-9 Bulletin. Unless otherwise stated, the WOD surveys are carried out at 1200 bps hence each sample of the selected channels takes place every 4.84 sec (telemetry frame period). Generally, the WOD on UO-11 comprises navigation or spacecraft engineering survey data to assess the performance of the on-board systems. The most common surveys include telemetry channels 1, 2, 3 (the navigation magnetometer), 52 (the NiCd battery voltage) and, less frequently, the various spacecraft temperatures (x, y, z facets, battery and module boxes).

The number of channels can vary up to a usual maximum of six limited by the current on-board computer software and the desired survey period. The WOD format comprises a 'sample (telemetry frame) address' followed by the three-digit value of the chosen telemetry channels in numerical channel order finally followed by a checksum. The sample addresses and their data are transmitted in an 'inter-leaved' format — sub-commutating every eighth address, ie addresses 0-8-16-24-32-40-48 (decimal) on the first run through memory, followed by 1-9-17-25-33-41-49 etc on the second run through memory, and so on. This technique is employed to minimise the effect of burst errors on the received data — if you watch the data plotted in real-time, you will appreciate the power of this technique. An additional advantage (to the burst error resilience) used by the UoS Control Station is that a rapid appreciation of the trend of a data survey can be gained without the complete data dump thus allowing operators to proceed onto further activities in a minimum of downlink time ."

OSCAR-10 APOGEES

An explanation in the use of the apogees supplied in this column is given in the October 1984 issue of Amateur Radio. The assumptions made in that column are still valid however now that the bird is slowly drifting into the Southern Hemisphere the higher elevations required may necessitate some "OF-ing" for the strongest signal.

de Colin VK5HI.
AR

OSCAR-10 APOGEES JUNE/JULY 1985

	DAY #	ORBIT #	APOGEE SATELLITE CO-ORDINATES UTC HHMM:SS	LAT DEG	LON DEG	BEAM HEADINGS SYDNEY AZ DEG	SYDNEY EL DEG	ADELAIDE AZ DEG	ADELAIDE EL DEG	PERTH AZ DEG	PERTH EL DEG
JUNE											
1	152	1480	1723:14	7	180	52	46	64	36	83	17
2	153	1482	1642:17	7	170	62	39	72	28	88	9
3	154	1484	1601:20	-8	161	70	31	79	20	93	1
4	155	1486	1520:21	-8	152	77	23	85	12		
5	156	1487	0259:52	-8	327					287	1
	156	1488	1439:23	-8	142	83	15	90	4		
6	157	1489	0218:53	-8	317					272	10
	157	1490	1358:25	-8	133	88	7				
7	158	1491	0137:56	-8	308			265	-2	277	18
	158	1492	1317:27	-8	123	94	-0				
8	159	1493	0056:59	-9	299			270	6	283	26
9	160	1495	0016:00	-8	289	268	4	276	14	289	35
	160	1497	2335:02	-8	280	274	12	282	22	298	43
10	161	1499	2254:04	-8	271	279	20	288	30	308	50
11	162	1501	2213:06	-8	261	285	28	296	38	322	57
12	163	1503	2132:07	-9	252	292	36	305	46	341	61
13	164	1505	2051:10	-9	243	301	44	318	52	4	63
14	165	1507	2010:13	-9	233	313	51	335	57	26	60
15	166	1509	1929:14	-9	224	328	57	354	60	44	55
16	167	1511	1848:15	-9	215	347	60	15	58	57	48
17	168	1513	1807:18	-9	205	9	61	34	55	66	41
18	169	1515	1726:20	-9	196	29	58	49	50	74	32
19	170	1517	1645:22	-9	186	45	53	60	43	80	24
20	171	1519	1604:24	-9	177	57	46	69	35	86	16
21	172	1521	1524:54	10	168	67	38	76	27	91	8
22	173	1523	1443:55	10	158	75	30	82	19	96	-0
23	174	1525	1402:58	10	149	81	22	86	11		
24	175	1526	0142:29	10	324					267	5
	175	1527	1321:59	-10	140	87	14	94	4		

SATELLITE MODE	DAY #	ORBIT #	APOGEE SATELLITE CO-ORDINATES UTC HHMM:SS	LAT DEG	LON DEG	BEAM HEADINGS SYDNEY AZ DEG	SYDNEY EL DEG	ADELAIDE AZ DEG	ADELAIDE EL DEG	PERTH AZ DEG	PERTH EL DEG
25	176	1528	0101:30	-10	315					271	13
	176	1529	0241:01	10	130	92	6				
26	177	1530	0020:33	10	305			285	2	277	21
	177	1531	1200:03	10	121	97	1				
	177	1532	2339:34	-10	296	263	1	270	9	282	30
27	178	1534	2258:37	10	287	268	7	275	18	289	38
28	179	1536	2217:38	-10	278	273	15	281	26	297	46
29	180	1538	2136:40	-10	268	279	23	288	34	309	54
30	181	1540	2055:43	11	259	285	31	296	42	324	60
JULY											
1	182	1542	2014:44	-11	250	292	39	305	49	346	64
2	183	1544	1933:47	11	240	301	47	320	56	11	65
3	184	1546	1852:48	11	231	314	54	338	60	33	61
4	185	1548	1811:51	11	221	330	60	360	62	50	55
5	186	1550	1730:52	11	212	352	63	22	61	62	48
6	187	1552	1649:54	11	203	15	63	40	58	71	40
7	188	1554	1608:57	11	193	36	59	54	50	78	31
8	189	1556	1527:58	11	184	51	53	65	42	84	23
9	190	1558	1447:01	12	175	63	45	73	34	89	15
10	191	1560	1406:02	12	165	71	36	80	26	94	7
11	192	1562	1325:05	12	156	78	29	86	18	99	1
12	193	1563	0104:36	12	331					261	-0
	193	1564	1244:06	12	146	84	21	91	10		
13	194	1565	0023:37	12	322					266	6
	194	1566	1203:09	12	137	90	13	97	3		
	194	1567	2342:40	12	312			260	3	271	16
14	195	1568	1122:11	-12	128	95	5				
	195	1569	2301:41	-12	303			255	5	276	25

CONTESTS

Ian Hunt VK5QX
FEDERAL CONTEST MANAGER

P.O. Box 1234, GPO, Adelaide, SA 5001

CONTEST CALENDAR

JUNE

8-10	*VK/ZL 1985 RTTY DX Contest (Rules AR May 1985)*
15-16	*All Asian Phone Contest (Rules this issue)*
22-23	*ARRL Field Day Contest*
28-30	*SMIRK QSO Party*

JULY

6- 7	*Venezuela Phone Contest*
13-14	*International QRPp Contest*
13-14	*IARU Radiosport Championship*
20-21	*The Sunshine State Jack Files Memorial Contest (Rules this issue)*
20-21	*Venezuela CW Contest*

AUGUST

10-11	*European CW Contest*
17-18	*REMEMBRANCE DAY CONTEST*
17-18	*SARTG RTTY Contest*
24-25	*All Asian CW Contest (Rules this issue)*

This month the rules for the Sunshine State Jack Files Memorial Contest 1985 are published. I would recommend this contest to you as one very worthwhile supporting. As well as reading the rules you might like to look back at the Thumbnail Sketch provided by Alan VK4SS which featured the late Jack Files VK4JF and appeared on Page 59 of 'Amateur Radio' for April 1985. Together with the copy of the rules I received a very nice note from Val VK4VR. It is a pleasure to hear from officers of a Division of the WIA, and perhaps indicates that there is some divisional interest in contests after all. I would like though to hear more in the way of comment from Divisions as well as receiving letters from individual members.

I recently wrote a letter of apology to Don VK1DH regarding his entry in the 1984 Remembrance Day Contest. For those of Don's friends who may have thought he omitted to send in his log, I can say that was not the case. His entry unfortunately appeared as VK1OH due to a typographical error at this QTH.

From time to time I receive letters from various operators querying why their logs have been disqualified from a contest. In each case I provide an answer and in some instances I have received replies thanking me for pointing out where the mistakes lay. In one instance however having explained in detail to the tune of two pages, as to why a log entry was unsatisfactory as well as answering personal criticism, I received a second letter in which the operator claims that I had been unreasonable by not returning the log with the advice that it was unacceptable in format. Unfortunately I would not be a practical proposition to adopt such an approach as you would undoubtedly realise I would like to present for your thought a small insight into my attitude regarding the Federal Contest Manager's position and to this end I quote one paragraph of the letter which I wrote to the contestant concerned.

"In the past Federal Contest Managers have included in contest rules a paragraph to the general effect that the Contest Manager's decision is final and no correspondence will be entered into. I have tried to stay clear of this approach as I would not wish to stifle healthy discussion on any worthwhile contest matter. I do however have the right to implement such an approach should I see it as necessary.

I would hope that the situation will remain as is and that during my term as Contest Manager I will be able to help our contest operators here in Australia to improve their performance both in their actual operating as well as finishing the job properly by submitting logs of good quality. It will not always be that I can provide reams of comment and suggestions through this column as sooner or later I will run out of ideas. I am most happy to hear from you re any aspects of contesting you would like to see discussed and would make any contributions for direct publication most welcome as well.

Whilst still on the subject of logs I would like to quote yet another paragraph from the letter referred to above, namely *"In each instance the disqualified logs were examined by myself as well as another amateur assisting me with the compilation of results. The decision to disqualify same was not made lightly, however you surely will understand that there has to be some level arrived at beyond which any unsatisfactory logs may be measured."*

So, once again I would appeal to you to ensure that when you enter a contest you make yourself thoroughly familiar with the rules and go to at least some trouble to see that your log qualifies properly with the requirements laid down. I hope that I do not have to make much more mention of this aspect of contesting, nevertheless I will issue the warning once again that logs received which are considered unsatisfactory WILL BE DISQUALIFIED without further ado.

As I write this I am preparing to process the batch of logs received for this years John Moyle Memorial Field Day Contest.

A quick glance through these logs shows that some most excellent entries have been submitted. It will be most interesting to go through them to come up with the final result. At the recent Clubs Conference here in Adelaide, at which I was invited to speak, I made the comment that I would consider publishing a sample of at least two of the best logs submitted, one a manually produced log and the other a computer produced log. I would, of course, first approach the operators who submitted same to obtain their concurrence before going ahead and providing such copy for public scrutiny.

Also as I write this the Annual Federal Convention is soon to take place. I had the pleasure of meeting Guy VK4ZXZ, who is the Federal Councillor for the Queensland Division, as he passed through Adelaide on his way to the convention and was thus provided with the opportunity of discussing contest matters with him as well as with David VK5AMK Federal Councillor for VK5. I provided a fairly comprehensive report to the convention and it will be very interesting to see just what comes out of this years convention.

It is certainly a fact that we all learn by our mistakes and that this is what experience means. Harking back to the Field Day Contest I have a feeling that the inclusion of multipliers for VHF operation may have created some interest even to the extent that the VHF section of the contest deliberately omitted this year due to obvious lack of interest in this section might well need to be re-instated. Other recent discussion has revealed a deal of dissatisfaction with the approach to VHF operation in the annual Remembrance Day Contest. I may be able to have the suggestion aired at the Federal Convention to the effect that the contest have completely separate sections for HF and VHF. Such an approach, it has been claimed, would make things somewhat more equal where country and city HF operators are concerned. Needless to say only good can come out of open discussion of such contest matters. It would not do for things to just stagnate with no progress or change taking place.

As part of making the contest scene more interesting to members I would like to see much more in the way of recognition of contest success. Both the VK4 and VK5 Divisions have put up ideas for memorial trophies which have yet to be discussed. Such could certainly be a help, whilst I would like to see such items as more plaques and pennants be awarded for competition. I would propose that the same trophy could not be won by an operator two years in succession and also that trophies, pennants and plaques should only be awarded to members of the Wireless Institute of Australia for contests organised by the Federal Contest Manager. Where operators, other than members, are winners they should receive certificates. If anybody would like to help towards this end by donating such items for presentation I would be very pleased to hear from you. Maybe even some of the electronics companies could consider donating worthwhile prizes to help things along in this way.

Well, that is all I have for you this month. In next months issue there will be the rules for our Remembrance Day Contest. It may well be that there will be a number of changes to these rules so you will be warned to study them carefully. I will also present the rules for the European DX Contests which include the CW Contest as shown in this months Contest Calendar as well as the Phone Section to be held in September and the RTTY Section in November.

Meantime I trust that you will enjoy all the aspects of our really modern and wonderful hobby which you are pursuing.

Just as an afterthought I might add that with the advent of the results of the past VK/ZL Contest being published I will be able to announce the winner of the Contest Champion Trophy for 1984.

THE SUNSHINE STATE JACK FILES MEMORIAL CONTEST 1985

All amateurs throughout the world are invited to participate in this contest the aims of which are (a) to perpetuate the memory of the late Jack Files and (b) to enable amateurs to work stations for the WORKED ALL QUEENSLAND AWARD and other awards issued by amateur radio clubs in Queensland.

Date and Times: Saturday 20th July 0830-1230 UTC Saturday/Sunday 20th/21st July 2330-0130 UTC.

Divisions and Sections: (1) Stations within VK4 (a) Tx all bands, (b) Tx HF only, (c) Tx VHF UHF only, (d) Tx QRP only (e) Tx all bands Club Stations. (2) Stations outside VK4 (a) Tx all bands. (3) SWLs (a) receive all bands.

Rules

1. Except as specified below, rules on cross band cross mode, repeaters log keeping and submission will be as per 1985 RD Contest.
2. Stations may be worked repeatedly on all bands and modes provided that one hour has elapsed since the previous contact on that band and mode.
3. For scoring purposes on HF VK4 is divided into two zones, the dividing line being the Tropic of Capricorn. On all bands a bonus of ten points may be claimed for the first contact to a Qld City or Shire on each band during both (NOT each) sessions. Also a bonus of ten points may be scored for each contact with a Club Station.

(a) Stations in VK4
HF contacts with same zone, 3 points. Opposite zone 5 points. Outside VK4, 1 point.
UHF/VHF contacts to another City or Shire, 5 points. Same City or Shire, 3 points. Outside VK4, 1 point.

(b) Stations outside VK4
HF, VHF, UHF contacts to VK4 Stations, 1 point. Bonus points apply. No points for contacts to other call areas.

4. On the various HF bands it is recommended that operation is below 1 820, 3 575, 7 060, 14 175, 21 175, 28 450 MHz.
5. Logs must be submitted before 16th August 1985 to: The WIAQ Contest Manager, 5 Koomooloo Court, Mermaid Waters, Qld 4218. It would be appreciated if W.A.C. contest log sheets be used.
6. Awards will be given to the highest scorer in each section. However should a contestant receive an award in one section he/she will not be eligible for an award in any other Section.
7. The Contest Manager's decision will be final and no disputes will be entered into.

AR

THE 26TH ALL ASIAN DX CONTEST

The purpose of this contest is to enhance the activity of radio amateurs in Asia and to establish as many contacts as possible during the contest periods between Asian and Non-Asian Stations.

CONTEST PERIOD:
(1) Phone: 48 hours from 0000 UTC 15 June 1985 to 2400 UTC 16 June 1985
(2) CW: 48 hours from 0000 UTC 24 August 1985 to 2400 UTC 25 August 1985

BANDS:
Amateurs bands under 30 MHz

ENTRY CLASSIFICATIONS:
(1) Single operator 1.9 MHz band (CW only)
(2) Single operator 3.5 MHz band
(3) Single operator 7 MHz band
(4) Single operator 14 MHz band
(5) Single operator, 21 MHz band
(6) Single operator, 28 MHz band
(7) Single operator, Multi band
(8) Multi operator, Multi band

POWER, TYPE OF EMISSION and FREQUENCIES:
Within the limits of own station license.

CONTEST CALL:
(a) Phone "CQ Asia"
(b) CW "CQ AA"

EXCHANGES:
(1) For OM stations: RS(T) report plus two figures denoting operator's age.
(2) For YL stations: RS(T) report plus two figures "00 (zero zero)"

RESTRICTIONS ON THE CONTEST:
(1) No contact on cross band
(2) For participants of single operator's entry
Transmitting two signals or more at the same time including cases of different bands is not permitted
(3) For participants of multi operator's entry
Transmitting two signals or more at the same time with on the same band except in case of different bands, is not permitted

POINT AND MULTIPLIER:
(a) Point: Perfect contact with Asian stations (excluding US auxiliary military radio stations in the Far East, Japan) will be counted as follows
1.9 MHz band . . . . . 3 points
3.5/3.8 MHz bands . . . . . 2 points
Other bands . . . . . 1 point
(b) Multiplier: The number of different Asian Prefixes worked on each band. According to the WPX Contest rules.

SCORING:
(The sum of the contact points on each band) X
(The sum of the multipliers on each band)

THE SUMMARY AND LOG SHEETS
Available from JARL

AWARDS:
(1) For both phone and CW, certificates will be awarded to those having the highest score in each entry in proportion to the number of participants from each country and also those from each call area in the United States.
(a) The number of participants under 10
Award only to the highest scorer
(b) From 11 to 20
Award up to the runner-up
(c) From 21 to 30
Award up to the top third
(d) From 31 or more
Award up to the top fifth
(2) The highest scorer in each Continent of the single operator multi band entry will receive a medal and certificate from the Minister of Posts and Telecommunications of Japan.
(3) The highest scorer of the multi operator multi band entry in each Continent will receive a

REPORTING:
(1) Submit a summary sheet and logs of only one classification.
(2) Both log and summary sheet must arrive in JARL, PO Box 377, Tokyo central, Japan on or before the following dates.
(a) Phone 30 September 1985
(b) CW . . . 30 November 1985

DISQUALIFICATION:
(1) Violation of the contest rules.
(2) False statements in the report
(3) Taking points from duplicate contact on the same band in excess of 2% by the total.

ANNOUNCEMENT OF THE RESULT:
(1) Phone . About February 1986
(2) CW . . . About April 1986

COUNTRIES LIST OF ASIA:
A4, A5, A6, A7, A9, AP, BV, BY, EP, HL/HM, HS, HZ/7Z, JA-JS, JD-1 (Ogasawara & .), JT, JY, OD, S2, TA, UA/UN/UW/UW, UZ/RA/RN/RV, RW/RZ9-0, UD, UF, UG, UH, U , U , JL, JM, V85, VS9M/BQ, VU, VU (Andaman & Nicobar Is.), VU (Laccadive .), XU, XV, 3W, XW, XX9, XZ, YA, Y , YK, ZC4/5B4, 1S (Spratly .), 4S, 4W, 4X/4Z, 7O (S. Yemen), 9K, 9M2 (West Malaysia), 9N, 9V (Singapore), (AbuAil)

RESULTS OF VK STATIONS PARTICIPATING IN 25TH ALL ASIAN DX CONTEST

PHONE SECTION

*VK5BW	3.5	88	24	2112
*VK6AOK	7	10	8	80
*VK2XT	21	1788	76	135888
VK6NPT	21	771	80	61680
VK5KJT	21	76	1	76
*VK2PFQ	28	365	66	24090
VK2BQS	28	201	52	10452
VK2KCN	28	96	38	3724
*VK2APK	M	588	114	67032
VK5ATU	M	421	131	55151
VK3PBQ	M	377	93	35061
VK1LF	M	22	4	88
VK2JPC	M	76	1	76
VK4NAS	M	31	1	31
*VK6MD	Mop	2993	259	775187

CW

*VK4TT	14	285	60	17100
VK3RJ	14	31	27	837
*VK5AGX	21	233	66	15378
*VK4XA	28	75	30	2250
*VK2APK	M	840	185	118400
VK2BQQ	M	284	134	38056
VK3AUQ	M	253	123	31119
VK5GZ	M	237	108	25596
VK2DID	M	31	23	713
*VK3EZ	Mop	855	220	188100

(VK3s FY,JJ,DMU,DMI,oprs.)

** JARL Certificate*
M Multi Band Single Operator
Mop Multi Band Multi Operator
in the order of Call Sign, Entry, Points, Multiplier, Final Score.

WICEN NEWS

Ron Henderson VK1RH,
FEDERAL WICEN CO-ORDINATOR,
171 Kingsford-Smith Drive,
Melba, ACT, 2615

STANDARDISATION OF CONNECTORS

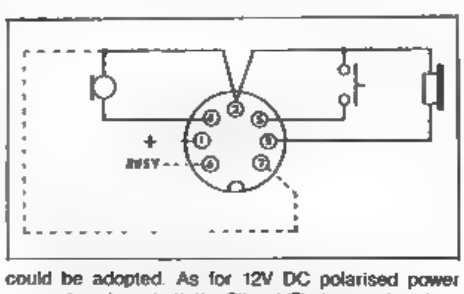
recently received an interesting letter on this topic from Paul Howarth VK2ZPS and with his permission I am including it below

I read with great interest both articles on standard connectors for amateur equipment which appeared under WICEN News in July 1984 and January 1985.

Although I am not a member of WICEN my interest comes from my association with a volunteer emergency service organisation and being an amateur I was surprised to learn that a standard does not exist within WICEN as a whole. I am a believer in the use of standards wherever they are practical and the adoption of a standard wherever they don't.

Both systems have merits, ie the separate earth for microphone circuits, the busy line for repeater operation (this feature being omitted where equipment is not modified for this purpose, and a +12 volts line for indication, electret microphones and low current switching. Perhaps a combination such as

1 — +12V supply
2 Ground
3 — Audio Output
4 Microphone Input
5 — PTT
6 — Busy (Optional)
7 — Microphone Ground (Optional)



could be adopted. As for 12V DC polarised power connectors, I use both the Clipsal 'T' plugs and sockets as well as 6.5 mm phono plugs and sockets (Metalised type), and believe both have their place. I do understand that the Standards Association of Australia (SAA) has been approached with regard to issuing a standard for the polarity of the 'T' connectors.

I am putting my comments to yourself, WICEN members and amateurs as a whole, hoping to see some active discussion resulting in the adoption of a standard.

This I believe, would further enhance the professional image of WICEN amongst statutory authorities.

Regards,

Paul Howarth VK2ZPS.

The key need is standardisation and interoperability of equipment and accessories within a recognised group of WICEN operators, probably on a regional or geographical basis as they will be working together.

AR

MAY'S BEST PHOTOGRAPH

The Judges at Agfa-Gevaert Ltd Australia chose the selection of photographs accompanying the article of Lizard Island in May. Anne VK4FAB will now be eligible for the Agfa prize.

AWARDS

Joe Ackerman, VK4AIX
5 Koomooloo Court, Mermaid Waters, Qld 4218

This month we will be detailing some of the awards which are sponsored by YL groups

These awards can be gained without much effort as there are a significant number of YLs operating on all bands.

Many countries have special nets operating for YL activities and OMs are welcome to participate, unless stated otherwise.

Some of these nets are shown below

ALARA, sixth of each month, hourly and may be found on 7 088, 14.280, 14.288, 21 188, 21 380, 28.050 and 28 588 MHz

3 525 MHz at 0800 UTC on Mondays WARO CW net

3 570 MHz at 0830 UTC on Mondays ALARA net

14 160 MHz at 0600 UTC on Mondays and Thursdays Natter net

14 160 MHz at 0500 UTC on Mondays and Thursdays. VE/VK/ZL net

14 220 MHz at 0630 UTC on Mondays DX YL net OMs welcome on first Monday

14 333 MHz at 0300 UTC on Saturdays VK/ZL net

21 183 MHz at 0400 UTC VE/VK net.

21 355 MHz at 1430 UTC daily DX YL net

ALARA AWARD

This award displays eight hand painted wild flowers native to each of the Australian States The artist is VK3AZJ

The logo is black and yellow and the whole is printed on dull white paper, 21cm x 30cm. A most attractive addition to any award collection

Rules for application for ALARA Award

VK/ZL applicants, 10 members to be contacted and to include 5 Australian States DX applicants 5 members to be contacted and to include 4 Australian [redacted]

All contacts to have been made with members on or after 30th June 1975 No repeater contacts will be allowed

Applicants must submit a complete extract of log entries, which is to be certified correct by two other amateurs whose signatures must be appended In the event of an applicant in an isolated location being unable to obtain certification QSL cards should be forwarded in lieu

Application must include full name, address, signature and call sign of the applicant All contacts must be made from the same call area Official ALARA net contacts do not qualify

Special endorsements available eg Mixed, All CW, All Phone, All 28 MHz, etc Endorsement stickers available for each ten additional members contacted For DX applicants, 5 additional

Fee Applications should be accompanied by the equivalent of 3 Australian dollars or 7 IRCs. Additional stickers 1 Australian dollar

Applications should be forwarded to ALARA Awards Custodian, Mavis Stafford, 16 Byron Street Box Hill South, Vic 3128

WARO — NZ

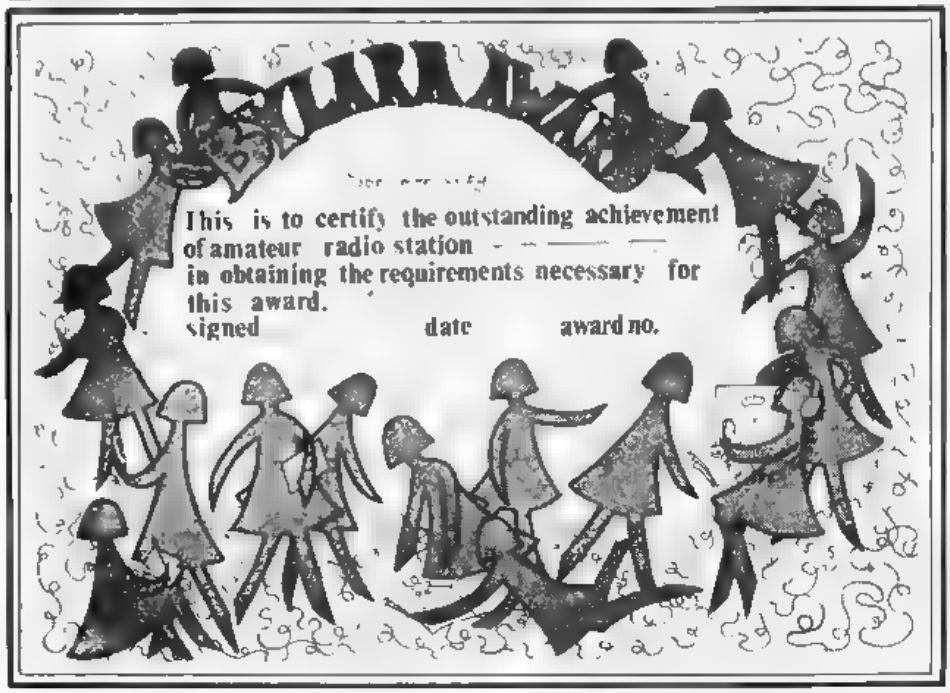
This award is issued by The New Zealand Women Amateur Radio Operators.

Requirements.

ZL and VK stations must work twelve WARO members resident in New Zealand DX stations require six contacts Contacts for amateurs date from 1 June 1969 and for SWLs on and as from 1 January 1979

VHF Section: Requirements are ten VHF contacts with WARO members and applicants may be home stations, mobile or portable. Endorsements are available for each five additional contacts. Commencing date 1 January 1979

SWL Section: ZL and VK stations must list twenty contacts heard with WARO members. DX stations need to list ten contacts heard. Heard contacts only from 1 January 1979. Log details with call signs of both stations heard.



General Requirements: Contacts via repeaters, WARO nets or contests are ineligible for the award Contacts may be any mode or band, with applicants contacts from the same QTH, except as for VHF

No QSLs are required only GRC list certified by one other amateur and sufficient postage for return of the award to be forwarded with the application

Applications to be forwarded to Custodian WARO Award-ZL1OC. Vicki Shaw, PO Box 2088. Whakatane. NZ

BYLARA AWARD

This attractive award is sponsored by the British Young Ladies Amateur Radio Association. It is available

to all amateurs and SWLs

Requirements

DX outside Europe Work ten YL members, to include six British YLs as from 29 Apr 1979

All bands all modes One contact per member Open to all YLs OMs and SWLs Special endorsements, available on request eg "a CW" all "10m SSB" etc

Applications to be made to Custodian Bylara Award G4EZ 3 Primley Park Crescent Leeds LS17 7HY England UK

QSLs are not necessary Log data only required signed by the applicant Fees One pound fifty p, 12 IRCs or JS$4 List of members may be obtained from the Custodian — please enclose SASE

THE 88 CERTIFICATE

The Dutch-YL-Club was started on 9 May 1981 and is affiliated with VERON, and they are the sponsors of this Award Rules are as follows. HF-EU-DYLC members count 8 points, non members of DYLC, but still Netherlands YLs, count 4 points DX — All Netherlands YLs plus the members of DYLC, 11 points Submit proof of having established two-way radio contacts with Dutch YLs or members of DYLC. Each contact is awarded with a number of points and the applicant must earn a minimum of 88 points (Same rules apply for SWLs).

Only QSOs from 9th May 1981 are valid. Have list certified by two other amateurs, Club Officer, or Notary Public. Cost is 8 IRCs Apply to Awards Manager M Wolf-Waldeboer Polotenweg 14-b, 8303 EJ Emmeloord The Netherlands

CWRJ "YL" FLOWERS AWARD. (YLAW)

CW only With the first letter of the suffix of the call sign of stations worked in the 10 metre band (28MHz) spell the names of five flowers (English or Portuguese names). Stations worked must include 5 YL operators YL stations may be used to substitute letters in the names of flowers (as in poker) YL contacts may be on any band Contacts may be any country. Endorsements — none Send log data, certified, cards (listed in order to form names of flowers) YL prior date

Fees is 8 IRCs QSOs valid after 1 January 1982 Manager is PY1DWM PO Box 24039 20522 Rio de Janeiro, Brazil

MINERAL FIELDS AWARD

This Award is to create an interest in the north-east of Queensland and to bring an awareness of local conditions to interested amateurs

The Award is on a points attained basis, and point scores are as follows

Contact with a Mount Isa Station on HF count 1 point
Contact with a Mt Isa Station on VHF count 2 points
Contact with a District Station on HF count 2 points
Contact with a District Station on VHF count 3 points
RTTY and CW counts double points score for that contact

The District Stations are those stations within the boundary of the area north of Bourke to the Gulf and west of Cloncurry to the Northern Territory border

Stations can be claimed once per band, per mode (phone CW RTTY) ie VK4ACE - 80m phone 40m CW and phone 15m CW and phone and VHF =
1 + (1 + 2) + (1 + 2) + 2 Contacts after 1/1/76 may be claimed for the Award

AWARDS: 1 LEAD/ZINC 10 points, at least one contact with a station in Mount Isa and one District Station compulsory
2 COPPER LEAD/ZINC + 5 points.
3 SILVER LEAD/ZINC + COPPER + 5 points

APPLYING FOR THE AWARD: CHC GCR applies

Send certified list of contacts and points claimed to *MIDARG PO Box 1715 Mount Isa, Qld 4825.*

Please include 4 IRCs to cover P & P and costs

HIROSHIMA DX CLUB

The Hiroshima Kangaroo DX Club are issuing a HKDXC Award for the third anniversary of its foundation. HKDXC hopes many stations all over the world will participate in hunting this Award The rules are as follows

CLASS A To get more than 500 dissimilar VK stations QSL cards including VK1 to VK8 and also more than 3 HKDXC member's cards.

CLASS B To get 300 dissimilar VK stations including VK1 to VK8 plus 3 HKDXC member's cards.

CLASS C To get 100 dissimilar VK stations including VK1 to VK8 plus 3 HKDXC member's cards.

COMMENCEMENT: 1st February 1984 (Effective QSOs only after this date.)

OTHERS: HKDXC member's card must have a membership of HKDXC to be valid for the Award.

The applicant is required to send following objects to the addressee

1) Each one card of VK1 to VK8 confirmed
2) Three HKDXC member's cards confirmed
3) The summarised log sheets (GCR)
4) Ten IRCs for return postage

THE ADDRESSEE H Ichikawa JR4WWT 20-20, 5-Chome Midori Minami-Ku, Hiroshima 734 JAPAN

WIA 75 AWARD MANAGERS REPORT

The following are quotes from letters included with claims for the award.

Val Rickaby VK4VR *"I had a most enjoyable time collecting the numbers and worked a lot of new stations.*

Ron Millingen VK2PZW *"May I say that as a newcomer to amateur radio and only on air for four months that I found this a most stimulating award*

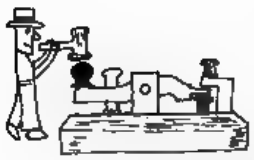
John O'Brien VK1NCO *Thanks for organising the award, it has caused a lot of interest on air*

Dennis Tidy VK2DET *"I am looking forward to receiving this one off award. It will take prominent position on my shack's wall. I have made many more friends on radio through the amount of interest shown for the award*

Brian O'Neill VK2AKU *"I would like to thank you for the time and trouble in preparing this award for radio amateurs on this occasion."*

Arthur Harris VK2KFV *'Good luck with the award, and by the sound of the airwaves, particularly 80 metres, you will be sending a few out.'*

John Heaver VK3VNO/XE1H *'Having enjoyed the exercise very much and I do wish the Institute all the success it deserves.*



POUNDING BRASS

Marshall Emm, VK5FN
GPO Box 389 Adelaide, SA 5001

INDEX OF COLUMNS AS AT 16-03-85

No	Pub Date	Subject
1	8/82	Intro. Subjects to be covered
2	9/82	The CW QSO (I). Establishing Contact.
3	10/82	The CW QSO (II). the QSO
4	11/82	Abbreviations. Query re use of QRL
5	12/82	Contest Operation
6	1/83	Keys and Keyers (I), Manual Keys.
7	2/83	Correspondence — VK4RF, VK2BIW Overlining, Pet Hates
8	3/83	Keys and Keyers (II), Mechanical and Electronic
9	4/83	Keys and Keyers (I.), Paddles, Keyers. AEA
10	5/83	Signal Reporting RST
11	6/83	Signal Report Amplifications.
12	7/83	Retrospective, Zero-beat Operation.
13	8/83	Zero-beating, Applications, Break-in Operation.
14	9/83	Getting Rid of the Garbage.
15	10/83	Learning the Code
16	11/83	Increasing Speed request info on Practice Material.
17	12/83	VK5EK Letter ICW, Circuit for ICW PA.
18	1/84	QRPp Club Fold-up.
19	2/84	Morse Examinations
20	3/84	QRP Operation.
21	4/84	Readers letters re ICW and MCW
22	5/84	ICW and Gentlemen's Agreement.
23	6/84	Spark to CW — 1926 ARRL Handbook
24	7/84	Net Operation. More 1926 Material.
25	8/84	Birthday, Codemaster
26	9/84	Establishing Contact
27	10/84	Poor Sending.
28	11/84	Speed, Letters
29	12/84	Abbreviations
30	1/85	Whither CW RST Reporting
31	2/85	Signal Report Amplification.
32	3/85	Why Use CW?
33	4/85	Speed Practice for the Novice Operator
34	5/85	Bits and pieces correspondence
35	6/85	Correspondence. Biggest Key
36	7/85	Getting it right
37	8/85	Learning the Code

You may well be wondering about the photos which accompany the column this month — is it a giant key or a midget operator? Is it a normal-size operator who is suffering from elephantiasis of the key? Read on, and all will eventually be revealed.

But first, I have some more correspondence to deal with. Thanks very much for the letter from Lloyd Collier, who commented on the article "Whither CW?" which appeared in January. Lloyd's comment was that you could engender some interest in CW operation by "reversing" the exam requirements. His suggested exam format would be —

Full call — Regs and CW at 10 WPM.

Novice — Regs and Theory.

Thanks also for an encouraging letter from Ken VK5PKP, who neglected to include a return address. Drop me another line Ken because the fact that your dad is an N6 indicates we may have more in common than an interest in CW!

Glen Torr VK1FB sent a very interesting letter describing a visit to the Canberra Space Centre at Tidbinbilla. Glen writes

Part of the display was a map of Australia showing the locations of previous NASA tracking stations in Australia. There was a short story about each station. They story about the Carnarvon WA station which was used from 1963-1975 for the Gemini Project contained the following, copied word for word —

> *An interesting event illustrating the initiative of the Outback of Australia was when Carnarvon first began tracking and was just waiting for a spacecraft to be launched, when a bolt of lightning cut all communication out of the town. The time of launch was passed from Geraldton to Carnarvon by* ***Morse code,*** *using the top wire of fences in places.'*

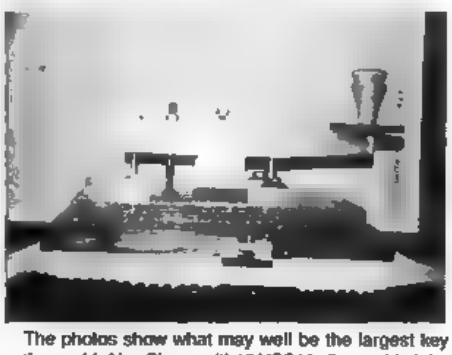
"Even though Morse may be old there will always be need for a code which can convey intelligence by the presence or absence of a medium."

A meeting of the old and new. I well remember as a lad in the USA the fascination of following the early manned space programmes — Mercury and Gemini — little did I suspect I would be reporting a connection between the most modern and the oldest applications of wireless communication.

I was reminded the other night of Glen's letter when I was giving a talk on the history of CW for a local club. As part of my work lately I have had to write formal papers for management, and the best way is to start with an outline which puts the whole thing in perspective. As I was outlining the talk, it suddenly dawned on me that Morse code is essentially a digital mode of communication, having a lot in common with its predecessors smoke signals, signal fires, and heliographs. Meanwhile, there was a side-development, as it were, in analogue modes, which have more or less been perfected in such areas as telephone, television, and FM radio, but the real leading edge in technology is in — you guessed it — digital techniques.

The talk was called "From Key to Computer", and concluded with a rather bald but reasonable assertion on my part that computer reception of Morse code transmissions is a "Cinderella" technology. Where conditions are good enough for computers to read Morse, then they are good enough for more advanced digital codes which are far more efficient. Where conditions are not so good, the human ear will beat the machine every time. I was delighted to prove my point after the talk when two different machines using two different programmes were unable to make any sense out of code which I could read with ease. It was gratifying to see the spectators who had been staring at garbage on the screen slowly drift over toward the receiver, where I was able to tell them what the computer couldn't!

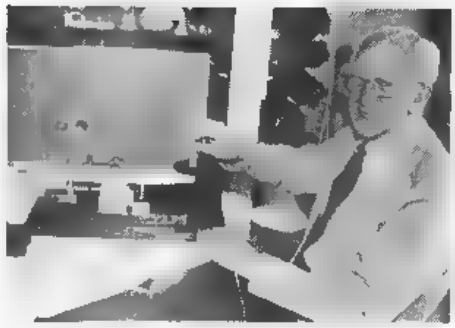
There is a simple elegance about a manual Morse key which has attracted brass pounders through the last century. Most of us use "gadgets" such as paddles and keyers, but I would bet that nearly every one of us has a straight key somewhere in the shack "just in case". Keys have been made from all sorts of materials, with all sorts of decorations and "improvements", and in my learning days I was able to use what must have been one of the smallest — a two inch key bolted onto the top of a portable military transmitter.



The photos show what may well be the largest key in the world. Alan Shawsmith VK4SS kindly provided the photos and some background information.

Alan feels that someone somewhere could produce something larger, but until this happens, he is claiming this straight hand key capable of being used to key any rig as the largest of its type ever made.

It sits on a two tier base and measures overall 19" by 9½" by 9¼" high. The weight is approximately 17 pounds or 7.5 kg; it can be carried in one hand if you have a strong wrist? It would pulp toes if dropped on one's foot, and would make an ideal door stop for a cathedral, yet it is so beautifully balanced that excellent code can be sent with a light touch of two fingers. The



base is of exotic wood and all the machined parts are of first quality inch-thick solid polished brass. The contacts are half an inch in diameter, so it could key a spark transmitter of very high power.

The question, according to Alan, is *"Was it designed for use as a functional instrument, or for static display only?"*

"The Incredible Hulk", as it is now affectionately known, was donated to Alan's key collection by an American collector who prefers to remain anonymous. The collector is desperately keen to expand his collection with some Australian keys (viz the Pendagraph vertical and broadside models, the Auto Morse 3 paddle, Buzza Bug and others). He is prepared to pay a good price and anyone who can help should contact Alan Shawsmith VK4SS, 35 Whynot Street West End, Brisbane, Qld. 4101.

A footnote explains that Harry VK3OM paid Alan a visit, and since they couldn't find room in the shack they photographed it on the kitchen table. Much to Alan's surprise, Harry could send 20 WPM on it!

So who knows of a bigger key? Failing that who wants to go for a place in the record book and build one? I've got an idea or two but I'll say no more until I can see if it will work. Thanks again to all contributors and correspondents, and I hope this column will stimulate some of you to dig into your memories and your files for some more CW ephemera.

AR

SPOTLIGHT ON SWLing

Robin Harwood, VK7RH
5 Helen Street, Launceston, Tas 7250

In last month's column I happened to mention the existence of Single-Letter Beacons and the speculation surrounding their operation. Now William Orr W6SAI has followed up with an article on so-called "cluster" beacons (1).

These beacons differ from the high powered stations employing a 500 Hz frequency shift keyer because they use the standard A1A mode and are generally weaker also. These "clusters" are over a narrow frequency range of 4 kHz and are spaced approximately 500 Hz apart. Reportedly located in different locations within the USSR, they are further inland than the "K" or "U" beacons which are on the coast.

Interestingly enough, these beacons appear in exactly the same position within each frequency span. Therefore, one can subdivide them into eight "channels" with the first one being 500 Hz above the commencement of the Span and the final one at the edge of it. You will readily hear the "F" beacon on "channel 1" and as you tune across the sub-band you will hear other Morse I/Ds including some with Cyrillic letters such as "·–·", or "··–··" or "·–·–·".

The approximate "Cluster" Beacon Frequency Spans are as follows —

3.564 to 3.568 MHz	*5.305 to 5.309 MHz*
6.801 to 6.805 MHz	*8.645 to 8.649 MHz*
10.643 to 10.647 MHz	*13.635 to 13.639 MHz*
17.015 to 17.019 MHz	*20.991 to 20.995 MHz*

Of all the "clusters", I have personally found that the 8 and 13 MHz bands is where they can be easily heard from 1000 UTC until they fade out around 1400 UTC. This to me is indicative of an Asian QTH. Orr also states that these beacons will occasionally send different digital information but I haven't personally noticed this yet. These S-Bs are generally weak, being easily lost within the cluttered marine allocations. Their exact purpose is not known, yet appears related to Soviet Defence Communications. For further details, I would refer you to the very interesting article in "Popular Communications".

AN INTRODUCTION

For those just starting out to listen to amateur radio communications for the first time, there is now a very helpful publication entitled "An Introduction To Amateur Radio DXing". It has been written by Rob Wagner VK3BVW who edits the amateur DX section of the "Australian Radio DX News". It is primarily designed for the SWL and/or DXer as an explanation of the hobby. It has the background to amateur radio together with explanations of the various modes and bands, how to send reception reports to amateurs plus a wealth of information for the SWL/DXer.

I find that the booklet is well prepared and generally free from too many non-technical terms and is ideal for the beginner who has had no experience in amateur radio operation. It could be also a good introduction to the general public at displays, expo's etc, although as it is a little expensive, I would recommend distribution only to those showing interest.

The publication sells for $3.00 within Australia and can be obtained from the publication department of the Club at the following address:— *Australian Radio DX Club, PO Box 77, Glenhuntly, Vic. 3163.*

DX POSITION

Incidentally, the Australian Radio DX Club is holding a "DXposition" on the Queen's Birthday Weekend (8th and 9th June). It will be at Normanby House, Monash University in Melbourne's south-eastern suburbs. It commences at 1 pm and there will be several sessions devoted to various aspects of DXing including antennas, accessories such as ATUs etc. as well as DXing various regions of the World. It will also be an opportune time to meet fellow DXers and enthusiasts. On the Sunday, those attending will inspect the Radio Australia studios at Burwood and the AUSSAT ground receiving station adjacent to the RA studios.

[illegible]

While tuning across the bands recently, I happened to come on to several programmes for the short-wave listener and/or DXer. We are all familiar with programmes such as "Talkback" over Radio Australia or "Media Network" over Radio Netherlands etc, that I thought it would be a good idea to have a table of DX programmes in this month's column. I have not rated them for quality as that is a matter of individual taste. I include those only that I have heard recently together with the times and days of operation.

JAMMING

You have by now encountered an unusual jamming sound over the past year or so. It can be likened to a klaxon or ambulance siren. I can now confirm that these signals are based in Iraq. As you are aware, there has been a war between Iran and Iraq for over four years now. The Iraqi's have been jamming a variety of stations, both broadcasting and military. The jammer has even been observed on MW, where it caused severe interference to a station in New Zealand, so much that a station in the North Island had to go to a new channel to get away from the pulses. Certainly a long way from the Gulf!

Well, that is all for this time. All the best of 73 and good listening! Robin VK7RH

Station	Programme	Frequency MHz	Time/Day
Radio Australia	*"Talkback"*	*6.045, 9.580*	*0810 Sun.*
Radio Netherlands	*"Media Network"*	*9.630, 9.715*	*0750 Thur.*
Radio HCJB	*"DX Partyline"*	*6.130, 9.745*	*0930 Sat. & Mon. 0700 Wed.*
BBC WS	*"Waveguide"*	*11.750 & others*	*1115 Tue*
Radio Sweden Int'l	*"Sweden Calling DXers"*	*15.190*	*1230 Tue*
Voice of Turkey	*"DX Programme"*	*9.560*	*0440 Sun.*
Swiss Radio Int'l	*"Swiss Merry-Go-Round DX Club"*	*9.560*	*2nd & 4th Sat. 0705*
Radio Polonia		*7.270*	*0640 Thur.*
VOA	*"World-wide Shortwave Spectrum"*	*6.110, 9.350 (LSB) 9.760*	*1330 Thur.*
KTWR	*"DX Listener's Log"*	*11.840*	*1000 Sat.*
Radio Moscow WS	*"DX Segment"*	*15.130, 17.880*	*Very Erratic but heard Sundays 0525*

CLUB CORNER

THE WIA 75TH ANNIVERSARY HAMFEST

Will be held at the Montrose Yacht Club Hobart on 8th and 9th June 1985. Amateur radio — yesterday, today and tomorrow will be the theme.

There will be a RTTY display, satellite communications, home brew section, QSL card display and more.

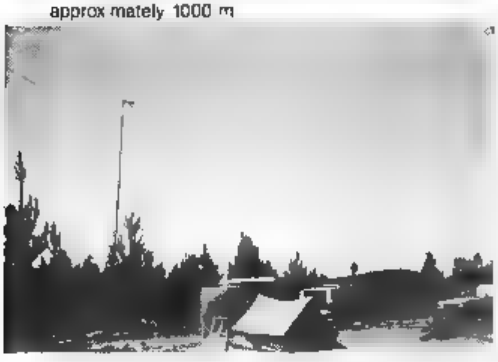
AR

CANBERRA RADIO SOCIETY

During the John Moyle Memorial Field Day, Canberra Radio Society using the call sign VK1ACA, operated from Kowen Pine Forest for 24 hours.

Fire Tower

The station was located beside the fire look-out tower, 16 km east of Canberra, with an elevation of approximately 1000 m.



A view of the antennas and operating tents.

Eric VK1EP beside the power unit.

Bands 80, 40, 20, 15, 10, 6 and 2 m plus 70 cm were used. Power was supplied by a 5kVA, 240V petrol/electric generator.

Operators were VK1s- TH, AOP, KRS, EP and KCM.

Supplied by M Layburt VK1MI

AR

WESTERN SUBURBS RADIO CLUB

Recently there was an Open Weekend at Melbourne Airport which saw the biggest public relations exercise ever undertaken by this radio club.

Members of the club participated in providing operators for a WICEN communications exercise as well as promoting amateur radio with operating and demonstrating equipment.

It was estimated that in excess of 80,000 people saw the club in action, complete with amateur television transmissions through the Melbourne ATV repeater.

Over a hundred signatures were gathered from people interested in learning more about amateur radio.

From Western Suburbs Radio Club Monthly Gazette for March 1985

AR

TOWNSVILLE ARC 1985 CONVENTION

Don't forget the dates, 30th, 31st August, 1st September. We are looking forward to any new ideas you might want to have incorporated in the 1985 event. Don't forget also to start getting the home brew display ready. Home Brew sections are also available for XYLs and harmonics. For XYLs your entry may be anything from a potato pie to the latest in embroidery and knitting, just so long as it is made in the home.

Junior displays usually cover some aspect of craft work, but this may not necessarily be so. What we need is a convention with something for everyone.

from Back-Scatter

AR

BALLARAT AMATEUR RADIO GROUP

On the weekend of the 17th and 18th August 1985 members of the BARG will be holding a Field Weekend from the Grampians National Park.

It is hoped this operation will enable amateurs and SWLs to work towards the National Parks Award. (See rules February AR, page 39).

The group also hope to enter the Remembrance Day Contest.

Propagation willing, the bands operational will be 2, 10, 15, 20, 40, 80 and 160 metres.

Submitted by Neville Pletsch VK3PNP

AR

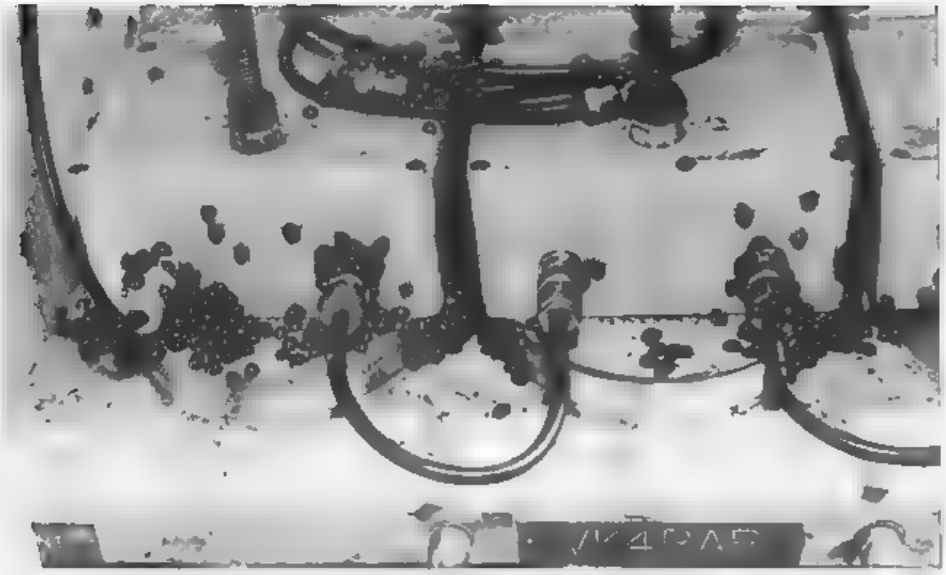
CENTRAL QUEENSLAND BRANCH

The Central Queensland Branch of the WIA has recently changed its Executive Officers. The new president is Ted Woodford VK4ZE.

Kay and Clive Salt VK4ACC proudly display the Queensland Recreation Trophy.

Clive Salt VK4ACC, immediate past president, was recently awarded a trophy by the Queensland Recreation Council for his dedication and voluntary services in educating new amateur enthusiasts. Clive and his XYL Kay are extremely proud of the trophy, which was one of ten presented by the Honourable Keith Wright, MLA, for services in the Central Queensland area.

Clive VK4ACC and Frank VK4CAU with the "Ham's Ham"!

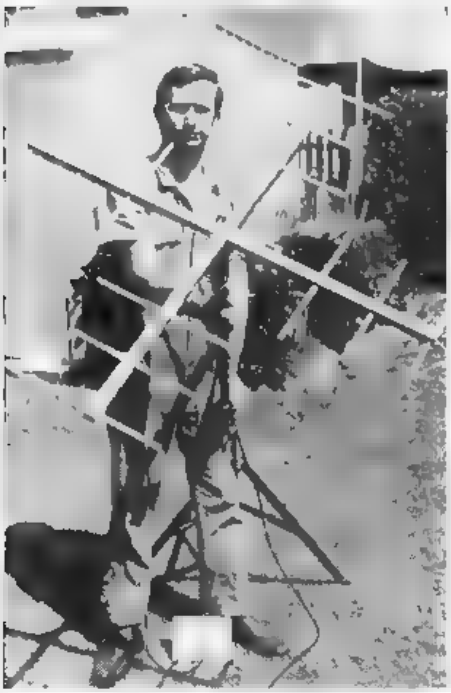


Close-up of the ladybirds on the 2 m repeater.

Last years festivities of the Branch culminated with a special dinner catered by Frank VK4CAU. Frank's 'piece de resistance' was a "Ham's Ham" completely emblazoned with the WIA logo.

The 70 cm beacon VK4RAR, sponsored by the Branch, is now operational from Rockhampton.

Recently VK4RAR's 2 metre site played host to a host of ladybirds. The ladybirds, during their annual migration to higher places, caused a few problems, but moved off again as quickly as they came.



Ted VK4ZEI maintaining the 70 cm beacon.

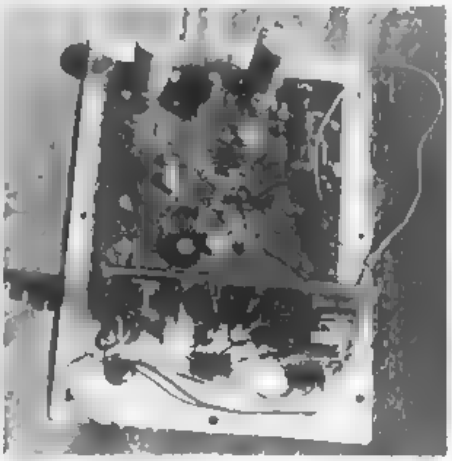
VK4WIR is operated each Monday night at 1030 UTC on 3.570 MHz +/– QRM. Amateurs wishing to attain the "Worked Rockhampton Award" are welcome to join in.

To attain the award amateurs need to contact fifteen member stations of the CQ Branch whilst overseas amateurs need five member stations.

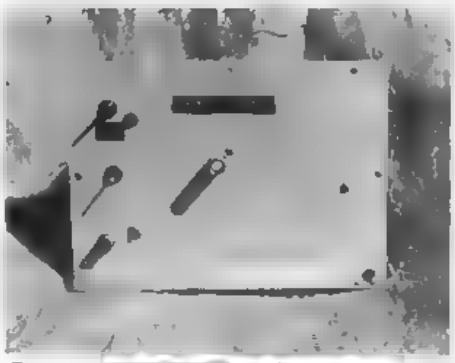
Correspondence to the Branch should be sent to Box 496, Rockhampton, Qld. 4700.

Contributed by Nick Quigley VK4NFL.

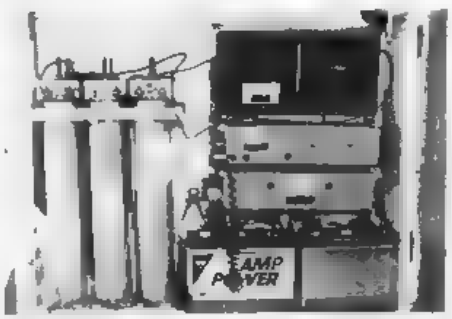
AR



Inside the 70 cm beacon.



Front panel of the 70 cm beacon.



VK4RAR played host to a host of ladybirds.

MT ISA AND DISTRICTS AMATEUR RADIO GROUP

PRESIDENT:	Steve Stevens VK4KHQ
SECRETARY:	Roger Wood VK4ARZ
TREASURER:	Graham Algie VK4VJQ
CLUB REPEATER	VK4RMI, 146.7MHz
CLUB CALL:	VK4WII
CLUB NET:	Tuesdays, 1000hrs UTC, 3.610MHz + QRM
CLUB ADDRESS:	PO Box 1715, Mt Isa, Qld 4825

The group administers the Mineral Fields Award and issues attractive multicolour certified for contacts.

AR

BRANCH NEWS FROM THE NORTH WEST COAST

The North West Branch of WIA, Tasmania, VK7NW held its monthly meeting on the 9th April 1985 at the Penguin High School with an attendance of 19. The meeting opened at 8 p.m.

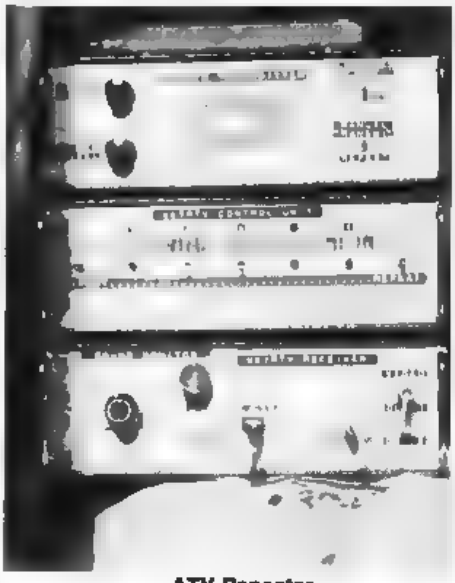
The president is Tony VK7AX and standing in as secretary for Tony VK7AH who was in Germany was Bruce VK7MB. Tony will be back for the next meeting. The minutes were read from the last meeting and accepted.

WICEN EXERCISE

At the last meeting the Branch were asked if they would provide communications for the National Horse Trials being held at Wynyard, which were held over the Easter long weekend. It was decided that this would be a good WICEN exercise and also a good publicity opportunity for the club. A number of volunteers would be needed and a show of hands resulted in 9 people being accepted. They all attended the horse trials on the Sunday of Easter which turned out to be a very eventful day, as not only did they provide communications for the day, they also became judges for the day, and some were provided with lunch. The people who gave up their time were John VK7ZPT (WICEN Co-ordinator) with VKs-7WJ, 7ZBT, 7WP, 7WL, 7ZNP, 7ZAP, 7AX and Peter Westerhof.

REPEATER 3 VK7NW

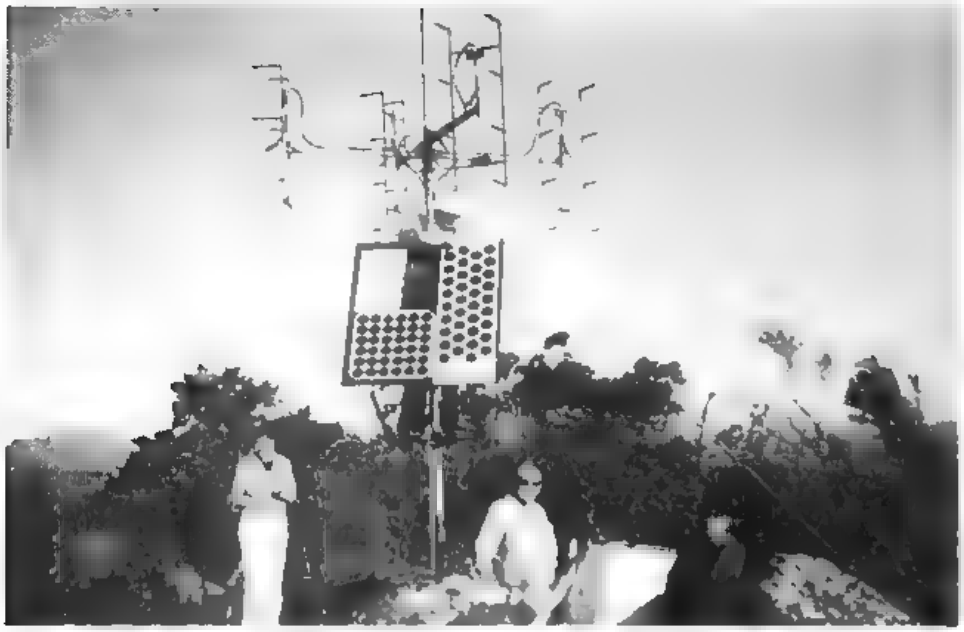
The repeater has been giving a little bit of trouble but Andrew VK7ZAP has it in hand, as he is in charge of the NW Branch repeater. For those who happen to visit our State the repeater is situated at Lonah out of Ulverstone, and the theory is if you can hear it you can work it. Andrew does a good job, as he keeps it running well.



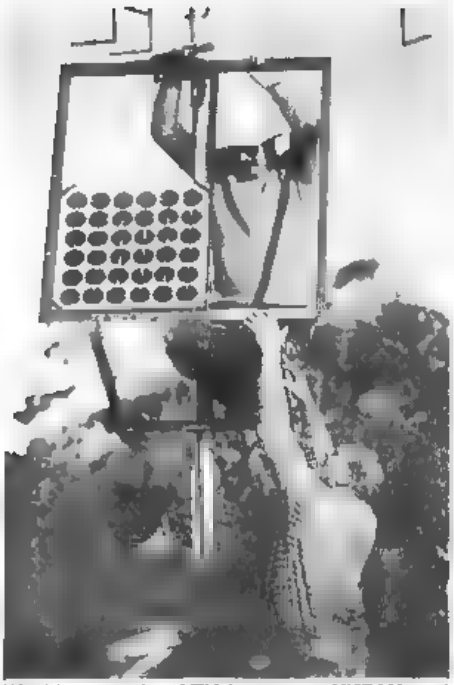
ATV Repeater.

ATV REPEATER

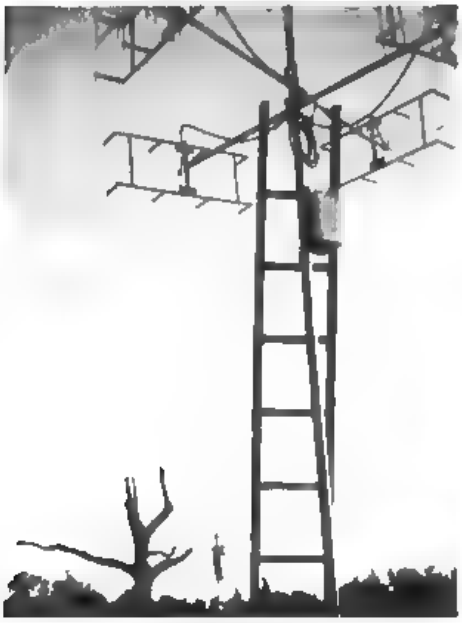
The ATV repeater is located on top of Mount Duncan which is part of the mountain range just behind Penguin and a picture has been received as far as Devonport to the east, and there has been a report that it was received in Melbourne. The work was hard to get t



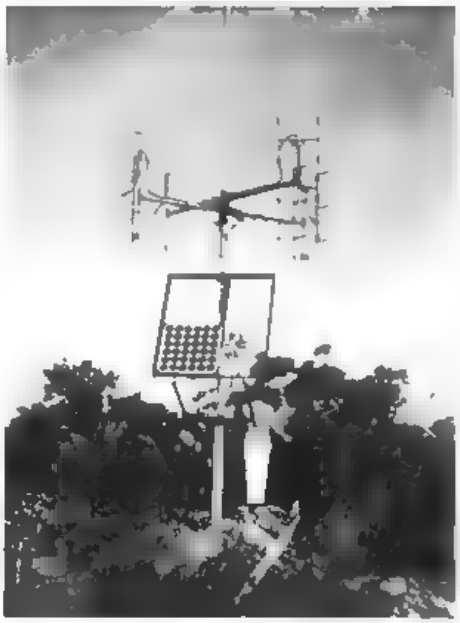
Tony VK7AX on the mast and, from left . . . Geoff VK7WZ, Jack VK7WJ and Peter Westerof



Working on the ATV input are VK7AX and VK7WZ



The output ATV unit.



The input.

where it is, with many man hours carting the equipment to the top of the mountain, but it has been working well, and it seems to be pulling out a good picture to most stations who can receive it

RTTY

Broadcasts are being put out on every second Friday night and as long as the news comes in and interest is shown they will continue. Broadcasts are generally run on activity nights from the branch station VK7NW, so listen for them on the bottom end of 80 metres, and also on 2 metres. Other improvements are on the way and more will be heard on that later or when more information is at hand

QSL

Not very much in the way of cards coming in at the branch but it is hoped that it will pick up later in the year

ENTERTAINMENT

VK7ZNP showed a video of the Canberra area and the Communications Tower also the tracking dishes that are around the capital and the Mint. These were enjoyed by all. Meeting closed at 10.30 p.m. and coffee and biscuits followed

Photographs and Article contributed by Max Hardstaff VK7KMF

AR

NEWS FROM THE USSR

The following items of interest appeared in the Russian journal "Radio" 11/84 and were translated from the original Russian by Dexter Anderson W4KM

The new QTH locator system for IARU Region 1 adopted at the Cefalu meeting April 1984, will be introduced nationally in 1985 in the USSR

Boris Stephanov UW3AX in an article "Pathway to the Airwaves" has quoted six Russian morse code abbreviations

Transliterated/Morse equivalent of abbreviation	Russian Expansion	English Meaning
86L — ·· —	Blagodaryu	Thank you
DSV (DSW) — ··	Dosvidaniya	Goodbye
ZDR — — — —	Zdravstvuyte	Hello
SPB ·— —	Spasibo	Thanks
SLD — —	Sledite	Follow me (QSY?)
TOV (TOW) — — —	Tovarishch	Comrade

Academician Vladimir Aleksadrovich Kotel'nikov Vice President, Academy of Sciences of the USSR, Director of the Institute of Radiotechnology and Electronics of the Academy of Sciences of the USSR Twice Hero of the Soviet Union in an interview replied (in part) to the following question

Q *"What, in your opinion, is the place of radio amateur creativity in conditions of the new stage of rapid development of radiotechnology?"*

A One of the needs of man is the need to create. Amateur radio opens up broad possibilities in this connection for youth as well as for adults. Hundreds are participating in the SNERA (Sportivno-Nauchnyy Eksperiment RadioAvrora — sport — scientific experiment radioaurora) being conducted by a number of establishments of the Academy of Sciences of the USSR, the Ministry of Communication of the USSR and by "Radio" magazine. Amateur radio has been and remains a wonderful school for mass training of personnel for radio electronics. Many young people entered radio electronics via amateur radio, judging by our experience. Of course the problems that occupy radio amateurs change from year to year. In the past, we made condensers, induction coils, tuning systems. Present-day radio amateurs deal with integrated circuits and space communication — for six years now Soviet Radio Amateur Satellites have been flying in space. But the main goal of amateur creativity has remained unchanged — to attract youth to active participation in the struggle for technical progress and to teach it inventiveness, innovation, and improvements in technology. This is very important for our country

AR

FORWARD BIAS

VK1 DIVISION

Ken Ray
PO Box 710, Woden, ACT 2606

COMING MEETINGS

Just a reminder that the VK1 Division holds its monthly meetings on the fourth Monday of each month, in Room 1 of the Griffin Centre Civic, commencing at 8 p.m. Topics to be presented in the next few months are

24 June — *Computers and Amateur Radio*
22 July — *Winter Sale and Social Night*
26 August — *Test Equipment and its Uses*

Doors open at around 7.45 p.m. with the QSL Bureau and bookstall available before and after the meeting. Visitors and non-members are most welcome, come along and renew old friendships or make new ones.

SIX METRES

With winter now on us, this is the time to stay inside the shack on these cold winter nights and work what DX there is. (Guess whose new house has an indoor shack!). However, the clear sunny Canberra weekends are the time to improve your 6 metre installation prior to the spring sporadic E season. Six metres, once the forgotten band in VK1, has seen a resurgence in the past two years. There are now quite a few VK1 stations capable of operating on this band, at least 15 or 20 stations. In fact, some of the higher rating stations would have well in excess of 10 countries confirmed on six, your humble scribe only has 4 VK1s confirmed. That in itself is an indication of the activity — it is not very long ago when there weren't that many six metre operators in VK1. With the VK1 six metre beacon expected to be operational soon, this will give a better indication to interstate six metre ops when the path is open to Canberra.

BROADCASTS

The 21st of April 1985 saw the 11th anniversary of the VK1 Divisional broadcasts. In that time, many amateurs have contributed to the success of these broadcasts either by providing news items or giving their time and stations to send the broadcast to air.

As a reminder, the Divisional broadcast goes to air each Sunday evening at 8 p.m. local Canberra time, on 3.57 MHz LSB and 146.950 MHz FM via the VK1RGI repeater, high on Mount Ginini. Often relays are made on other bands such as 10 metres, 70 cm and the UHF CB band. Normally the VK1 Award net operates on 3.57 MHz at the conclusion of the 80 metre callbacks. Join in if you have the time, its a good place to make some contacts for the 75th Anniversary award as well.

AR

VK2 MINI BULLETIN

Tim Mills VK2ZTM
VK2 MINI BULLETIN EDITOR
PO Box 1066, Parramatta, NSW 2150

The 1984/85 AGM and election was held on Saturday the 30th March. A report will be included in a later issue of the Minibulletin. The office bearers for this year are listed below.

Mike Burns VK2AUE: Parramatta Property Officer, Vice President
Roger Henley VK2ZIG: Member Services, JOTA Officer, Vice President
Peter Jeremy VK2PJ: President, New Membership
Tim Mills VK2ZTM: Repeater Committee Chairman, Mini-Bulletin Editor, Alternate Federal Councillor
Jeff Pages VK2BYY: Secretary, Broadcast Officer, Dural Property Officer
Paul Lorentzen VK2ATR: Affiliated Clubs, QSL Bureau Liaison
Max Smith VK2YKF: Assistant Treasurer, Publications Officer
David Thompson VK2BDT: Treasurer
Cec Bardwell VK2IR: Correspondence Course Supervisor
Bill Martin VK2COP: Intruder Watch Co-ordinator
Aub Topp VK2AXT: Librarian
Vince Roberts VK2PRB: Slow Morse Co-ordinator
Ken Hargreaves VK2AKH: Education Service
Jo Harris VK2KAA: Divisional Historian
Stephen Pall VK2PS: Federal Councillor
Wally Watkins VK2DEW: Alternate Federal Councillor
Fred Herron VK2BHE: Honorary Solicitor
Maureen Lavery: Administrative Secretary
David MacKay VK2ZMZ: WICEN Co-ordinator

DINNER DEFERRED

The VK2 75th Anniversary Dinner is being deferred until the warmer weather of Spring. Members who would like to take part in the operation of the next series of the special 75 call sign should write to the Divisional Council to register. The operation is being co-ordinated by Steve Pall VK2PS. Wet weather reduced the attendance to the fireworks night at Dural on the 13th April. Those who made it saw a very good display.

In previous notes the wrong date for the South West Zone Convention at Wagga has been quoted. The weekend chosen is 26/27th October. This gets away from a busy holiday time in Wagga. Look for the programme in a later AR. The range of QSL cards has been altered to include the 75th logo and are available from the Divisional office in 10 colour combinations. Divisional Council notes that while some offenders on two metre repeaters have been located and charged there are still a few to be located. They are concerned however that some amateurs' behaviour leaves a lot to be desired. Perhaps they could take time off to reread the Operators Handbook. They cannot expect the authorities to act if they are not doing the right thing.

NEW CALLBOOK

A final reminder for Clubs, Groups and amateurs to check and adjust any entries for the next edition. The September issue of AR will feature another Special for VK2. If you have any material for inclusion would you see that it reaches the Divisional office by the end of this month.

AR

VK4 WIA NOTES

Bud Pounsett VK4QY Box 638, GPO, Brisbane, Qld. 4001

WIAQ COUNCIL FOR 1985
GPO BOX 638, BRISBANE, QLD. 4001

PRESIDENT	VK4QA John Aarsse
SNR VICE PRESIDENT & ALT FED COUNCILLOR	VK4IY Ross Mutzelburg
JNR VICE PRESIDENT & MIN SECRETARY	VK4YAN David Jerome
HON SECRETARY	VK4MJ Theo Marks
HON TREASURER	VK4APN Paul Newman
VHF/UHF LIAISON & SERVICE LIAISON	VK4VR Valerie Rickaby
STATE WICEN CO-ORD	VK4KD Ken Ayers
NEWS & INFORMATION	VK4QY Bud Pounsett
RESEARCH OFFICER	VK4HB Harold Bremermen
QSL LIAISON OFFICER	VK4BHS Hugh Shaw
CLUB LIAISON & OUTWARD QSL	VK4UB Bill Dalgleish
FED COUNCILLOR	VK4KEW Dennis Breitkreutz
VK4WIA MANAGER	VK4ZXZ Guy Minter, VK4AGY Jack Gayton
BOOKSHOP MANAGER	VK4KZX Anne Minter
MEMBERSH P SEC	VK4UG Dave Richards
QSL OUTWARDS & VK4AWI MANAGER	VK4UB Bill Dalgleish
QSL INWARDS	VK4AOK Murray Kelly
VK4 IWS CO-ORD	VK4KAL Gordon Loveday
HISTORIAN	VK4SS Alan Shawsmith
AWARD MANAGER	VK4YX John Moulder
CONTEST MANAGER	VK4AIX Joe Ackerman
WIAQ EDUC CO-ORD	VK4AGS Ron Smith
MEETING CONVENOR	VK4BIK Barry Ker
DISPOSAL MANAGER	To be elected/appointed

AR

EDUCATION WANTED

Brenda VK3KT, Federal Education Co-ordinator is attempting to correlate a list of all classes teaching amateur radio throughout the length and breadth of Australia. At present she has a list of forty, but surely there must be more.

This list is needed so that when she gets enquiries she may direct the would be amateur to the nearest class or instructor as learning with an instructor is quite often much easier than trying to swot alone.

Brenda also runs an education net on 80 metres each Thursday night, with minimum success. This net is conducted for many reasons but it is particularly a forum for educators to exchange ideas re teaching methods, syllabus interpretation, examination procedures and discuss problems etc. (One instructor may have run into a particular problem which by discussing it with other instructors it may not be a problem.)

Do instructors feel a net is worthwhile? Has anyone any ideas at all about educating the would be amateurs? If so please let Brenda know. She is awaiting your letters and calls.

Contact Brenda on the Educat on Net 3.610-3.625 MHz at 1030 UTC or 3.685 MHz at 1130 UTC or write to Brenda Edmonds v a the Federa Office or to 56 Baden Powel Drive, Frankston Vic 3199.

AR

VK3 WIA NOTES

Jim Linton, VK3PC
DIVISIONAL PRESIDENT
VK3 DIVISION

NEW MEMBERS

The Victorian Division of the WIA wishes to welcome the following new members

Christopher Bennett, Robert Bradford, Eric Davies VK3PJP Stephen Dempsey VK3VMD. Tadeusz Dobrostawski VK3NCK, Gordon Ferguson VK3PZF, Robert Gawne VK3NGR, Geelong Technical School Radio Club VK3YTG, David Harrison VK3NDH, Gavin Hatfield. A. Jones.

Hector MacLean VK3ZLM, J. McDonald VK3PJD, Peter McDonald VK3PTE, Chris Milionis, Neville Pietsch VK3PNP, Stanley Pill, John Piovesan VK3KZC, Mark Richardson VK3PMD.

Jeffery Searl VK3KRF Angus Jones, Bruce Keilar VK3KWK and C. Purvis VK3DEN

VIC DIV COUNCIL

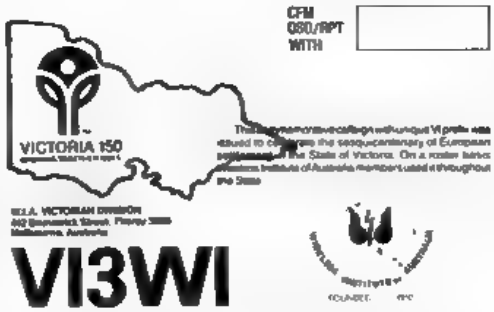
There were eight nominations for the 1985-86 Council, two short of the maximum number

While this situation meant a costly postal ballot of members was not required, it again leaves Council short of people to carry out the administration of your Division

Those who nominated were (in alphabetical order) John Adcock VK3ACA, Andy Chan VK3DPJ, Des Clarke VK3DES, Alan Heath VK3KZ, Jim Linton VK3PC, Lindsay Rohrlach VK3KAF Bill Wilson VK3DXE and Barry Wilton VK3XL

They were all members of the 1984-85 Council with the exception of John Adcock, a former councillor

Portfolios will be decided at the first council meeting later this month



CFM QSO/RPT WITH

VICTORIA 150

The Victoria 150 Award has been highly successful with claims being received from throughout Australia and overseas.

As previously mentioned in AR magazine, the award period has been extended to 31 December

Another major part of our hobby's involvement in celebrations of the 150th anniversary of European settlement was use of a commemorative callsign VI3WI, and the general use of the VI prefix

All QSLs received acknowledging contact with VI3WI have now been answered; if you had a QSO with VI3WI please don't forget to QSL

The callsign was activated by individual WIA members, and WIA member clubs on a roster basis throughout Victoria in a combined effort resulting in good public relations for amateur radio.

MELBOURNE 150

While Victoria's 150th anniversary started last November the capital city of Melbourne will have its own 150th birthday later this month

The WIA has the support of an amateur radio group in Melbourne, Florida, USA to assist in a special public relations exercise

The Platinum Coast Amateur Radio Society (PCARS) has contacted their Mayor of Melbourne, Harry Goode, who will be sending, via amateur radio, a goodwill message to the Lord Mayor of Melbourne, Eddie Beachman

In reply to a letter from W.A public relations officer Jim Linton VK3PC, the PCARS publicity chairman Robert Wilson KI4JP, said: "At the last meeting of PCARS the membership whole-heartedly endorsed a plan to pursue this public relations exercise Thank you for the opportunity to participate in this celebration and bolster the good name of amateur radio."

LIBRARY

The reference library available to members through the Wireless Institute Centre is in need of owners and workshop manuals for most types of amateur radio transmitters, receivers, and transceivers.

The plan is to collect the material so it will be available for photocopying by WIA members in years to come

If you can assist in donating, or loaning for photocopying, manuals for amateur radio equipment contact Des Clarke VK3DES, who is handling this library project

Many members are using the reference library, by either dropping into the Wireless Institute Centre, or requesting photocopies of articles via the post

AR

FIVE-EIGHTH WAVE

Jennifer Warrington, VK5ANW
59 Albert Street, Clarence Gardens, SA 5039

In case you received your "AR" before Saturday 1st June let me remind you that the J150 Launch Celebrations will be going on in Rundle Mall from Sunday 26th May to the 1st of June, so if you still want to help it may not be too late. The dates were put back by a week, in the end so that they did not clash with the GPO Display Station

At the time of going to press I am still trying to catch up with the back-log of work (mine and the WIA's!) caused one way and another by the Clubs' Convention in April Still think most of those who attended will agree that it was a most worthwhile exercise One of the highlights of the weekend was the attendance of our worthy Editor Bill Rice VK3ABP Bill was the guest speaker after Dinner on the Saturday evening and the main part of his topic was the processes that an article for AR goes through before you see it in print Although this was Bill's official function, unofficially he was able to take part in many items of discussion giving us background information from his positions as a member of Federal Executive and his past involvement with FTAC Also, I believe much was gained by Divisional Council members and Club Representatives alike being able to discuss things with Bill on an informal basis away from the conference table

On the Saturday afternoon, Ian Hunt VK5QX, the Federal Contest Manager spoke on several aspects of Contests and the Contest Manager's job, and answered a number of questions, and after the afternoon tea break, Graham Horlin-Smith VK5AQZ spoke on our involvement to date and in the future with Jubilee 150

We were disappointed that there were no VK8 representatives present this year Clubs represented were: SA ATV Group, Lower Eyre Peninsula ARC, South East Radio Group, South Coast ARC, Elizabeth ARC, Port Adelaide ARC, Whyalla ARC, and the 2nd Adelaide Scout Group.

The consensus of opinion was that this year's Convention was an improvement on last years. Unfortunately, I can't take the credit for that, I can only say thank you to David VK5AMK who "ironed out" all the "bugs" last year and made my job a lot easier this year This year, for the most part, we all knew what to do and what to expect Subject to the date of the Federal Convention, our Club's Convention has tentatively been booked at Parnanga for the same weekend (11th-13th April) next year, 1986.

DIARY DATES

DON'T FORGET — *The S E R G Convention 8th-10th June.*

General Meeting — *Tues 25th (possibly a Forum on Computers)*

AR

SLOW MORSE PRACTICE

The following operators have offered to make themselves available as detailed, for contacts with any operator desiring CW practice at the speeds nominated (times shown are local):

Vic VK3PGY 80 metres 7WPM
Mon-Fri 1300-1400, Sun 1100-1200

Murray VK5BVJ 3.530 MHz 6-12WPM +/-
Mon-Fri 1900-2100, Sat-Sun 0900-1100

Contributed by Marshall Emm VK5FN

AR

QSP

VI PREFIX

Australian radio amateurs can use the alternative prefix VI from 1 June to 31 December 1985

Approval was given by the Department of Communications following a request from the WIA for use of an alternative prefix during the Institute's 75th Anniversary

It had been W.A policy to seek a special prefix other than AX for the birthday year

This is the first time all VK radio amateurs will be able to sign VI — although the prefix was available for a limited period during the Victoria 150 celebrations.

HISTORY REVISITED

For newcomers interested in the early days of WIRELESS in Australia "The Best of Australia's Wireless Weekly" will give a fascinating and nostalgic trip back into the past.

This is a magazine size booklet of 130 plus pages containing reprints of pages from Wireless Weekly in 1927 It is interesting to see the ultimate in broadcast receivers and note their prices — comparing the change-over to decimal currency and the devaluation all these years hence, equipment is not too expensive today

Wireless Weekly was one of the first radio magazines in the world and in 1939 changed to a monthly publication with a name change to Radio and Hobbies Just prior to televisions inception in Australia it became Radio TV and Hobbies, then in 1965 the name was changed again to Electronics Australia, a name which it still carries today

A forward is written by Neville Williams who began working at Wireless Weekly in the early 1940s and retired as Editor-In-Chief of EA in 1983

AR

WA BULLETIN

Fred Parsonage VK6PF
HONORARY SECRETARY
VK6 DIVISION
Box 10, WEST PERTH, WA, 6005

EARLY APRIL.

In spite of many requests made over the Broadcast and at meet ngs there has only been one nomination for the Divisiona Council for 1985 outside of the incumbent members This s Cyr VK6MY

This means that ncluding the present council there are ten nom nat ons for the nine positions. The present Secretary VK6PF has agreed to stand down to prevent an expensive and unnecessary ballot Therefore, your D visiona Council for 1985 w l be -

Dave VK6IW	*Membership Secretary.*
Cliff VK6LZ	*Treasurer*
Cyril VK6MY	*Halleys Comet Sub-Committee*
Neil VK6NE	*Federal Councillor*
Bruce VK6OO	*President and Alternate Federal Councillor*
Jill VK6YL	*WA Repeater Group.*
Alyn VK6ZGA	*Vice President and VHF Group.*
Christine VK6ZLZ	*Booksales Officer*
Dougies VK6ZMG	*Vice President and Broadcast Officer*

All positions to be ratified at the AGM and first meeting of the new Counci

Posta Addresses for 1985 wi remain as follows -
WA Division PO Box 10, West Perth 6005
Booksales, PO Box 425. Cannington 6107
Broadcast PO Box 899. Fremantle 6160
QSL Bureau PO Box F319. GPO. Perth 6001

The Secretary for 1985 will be appointed at the first Counc meet ng and may be appointed outside of the Counc as per the const tut on

RADIO RALLY 1985

Due to many requests it has been decided to run another Radio Rally in 1985 The dates will be the 16th and 17th of November at the same location as last year, Advent Park

Commercial houses have already been approached and have promised support as have various groups within and outside of the Institute. After the first and second Radio Rallies, wash-ups were made, both through the broadcast and at meetings, and the many points from "More for the Ladies" to "Signposts to the toilets" were received. All agreed that the first Rally was good and the second one even better so it now is on us to make this year's Rally better still

We have no paid employees and everything that is done, is done by volunteers and those volunteers must be you and I. To date, apart from the groups taking part, there has been a shortage of support in spite of frequent requests over the News Broadcast We don't need you to work every week until the Rally although a few willing helpers would be appreciated, but we do need people who will willingly give just a couple of hours of their time on the Saturday to help set the show up and on the Sunday to help dismantle it In 1984 there were many willing hands but still no one could be found to do an hour on the entrance, so who did it? Chris Milne the organiser Who put away the chairs? Chris Milne. In fact the Goldfields Amateur Radio Group have volunteered to man the gate on the 1985 Rally but really, is this necessary? Surely we don't expect a country group to travel 600 km, have their own display and man the gate as well. How about a few of us who enjoy the Rally and enjoy amateur radio putt ng our names forward to be counted

The Radio Rally is laid on for two main pu poses, one to provide a soc al function and two. to have a meet ng place where city and country amateurs can meet The site at Advent Park has been chosen as a location adjacent to the city where low cost overnight accommodation is ava able to city and country members Support for this overnight fac ty has increased s nce the first Ra ly and the GARG and the PARG have made use of it The Division s keen on seeing as many country groups as possible come to the Rally in strength and perhaps to participate with their own display as does the Goldfields and Pee Groups. Perhaps now is the time to start some forward planning and advise the Division on what you would like to do and what you would ke provided

This is a story about four people namely Everybody, Somebody Anybody and Nobody

There was an important job to be done and Everybody was asked to do it Everybody was sure that Somebody would do it Anybody could have done it but Nobody did t

Somebody got angry about that because it was Everybody's job Everybody thought Anybody could do it, but Nobody realised that Everybody wouldn't do it It ended up that Everybody blamed Somebody when actually Nobody asked Anybody
Sound familiar?

AR

Bill and the TVI . . .

Ted Holmes VK3DEH
20 Edmunds Street, Parkdale, Vic. 3195

Bi l was fee ing quite happy He hummed tunelessly to himse f as he worked quietly away in the jungle known as his garden He had managed to pull down the remnants of his ancient dipole and the tattered shreds of wire wh ch were st l attached to it and had now erected a brand new one Almost new at any rate He had fortunately been able to purlom some tubular scaffolding poles from a nearby building site, where they had been ying apparently abandoned, on the ground B ll had natural y assumed that they were not requ red and decided that h s needs were greater than the owner s

Apart from a coup e of inc dents while he was tak ng them home nvolv ng a car mirror and a green p astic dustbin, he had managed to get two lengths home without undue d fficulty Now here they were. rising into the sky, support ng a brand new multi-band dipo e

He had thought of putting a ba un in position but had decided aga nst it, after inspecting a balun which he had stored away under his bench This was not look ng the best, and had not, ever since he had trodden on it some years before In any case he dec ded, a balun wasn't real y necessary for inverted vees After tying the ends to convenient tree limbs, he fe t sat sfied with the result and thought he would go ndoors and try the thing out

S nce the unfortunate business with the FT 101E he had been able to get a coup e of tubes to replace the ones he had nadvertantly burnt out Also, after some argument he had come to a reasonable arrangement with the person who so d it to him The man hadn't taken too k ndly to the idea of reducing the price because of the prob em w th the valves On balance, Bill felt that perhaps the chap had been a little unreasonable since, after all, the rig hadn't actually belonged to Bill at the time the finals became blown

As he desperately wanted a rig of some kind, Bill decided not to press the matter although he did not entirely give up his opinion as to the justice of his cause

He had brought his old ex-Army tuning unit back into service — after cleaning it up a bit — and had connected everything up, using patchcords salvaged from an overflowing junk box Now for the acid test!

Since it was early evening, he thought he would have a go on 80 metres. Tuning around the band, he found it to be fairly busy but he found a space just on the edge of two QSO's and started to tune. Surprisingly enough, the SWR (with the aid of the tuner) wasn't too bad only about 3 to 1 Bill felt this to be highly satisfactory and he started to call CQ

When Bill called CQ he usually went on for quite some time, as there was always the possibility that someone would not hear him. However it was apparent that someone had heard him, because there was a loud and peremptory ring on his front door bell Cursing mildly, Bill went to answer it. It was his immediate neighbour and he did not seem pleased

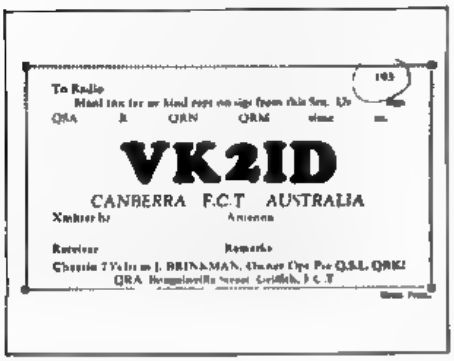
"You are mucking up my TV", said the neighbour
"Who, me?" replied Bill.
"Yes" said the neighbour *"Dirty great bars across the screen and a strange noise like a duck talking. It's got to be you"*

At this point Bill made his greatest mistake
"OK", he said. *"I'll come in and fix it straight away"*

AR

OVER TO YOU!

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.



SOME ADDITIONAL AUSTRALIAN CAPITAL TERRITORY TRIVIA

I would like to add a few words to the various stories written in last April's issue of Amateur Radio on VK1 activities and AJ Ryan.

I joined the Canberra Post Office, as a messenger in May 1927, the first official messenger appointed, and learned Morse code in the Canberra Telegraph Room, where a keen Sydney telegraphist put in a lot of hard work and energy to steer me up to TIT standard (Telegraphist in Training). After passing through various stages — messenger, telephone exchange, postman and postal assistant — I moved to the Taxation Office in 1935.

I obtained the Ticket of Proficiency — No 1425 — on 18th February 1935, with the Postmaster, Bill Piper, acting as Supervisor. I was allocated the call sign VK2ID.

As a boy I lived on West Lake a Canberra settlement consisting of over 100 Hudson built houses which are now demolished, but were located near where the American Embassy Buildings now stand.

My outfit consisted of 182.9 metres (200 yards) of wire feeding a galena crystal and a miniature Brown Horn speaker. I later up-graded to a three 409/415/410 valve type receiver plus associated batteries. These I obtained from Stan Gee, a shop around the corner from AJ Ryan's shop in Kingston.

It was while using this set that I learned a lesson the hard way. Whilst probing around in the set trying to eliminate whistles, I was successful, but it was necessary for me to pick up a new set of valves from Gee's shop costing five shillings per pay over a period. A costly experiment!!!

My family later moved to a semi-double storied house in Manuka located exactly opposite Woolworths. My amateur equipment then consisted of a TPTG 210 carbon plate valve, AC power, a four valve TRF receiver and monitor — all home-brew. This fed into a 15.2 metre (50 feet) high Windom antenna, one end being attached to a mast tied to the chimney top on the roof.

I later picked up a 40 metre crystal. The 210 was obtained from a shop in George Street, Sydney.

I experimented with AM using a hand-made mike. The first trial with the mike was made with a clock left in front of it while I dashed across the road to my friends place and checked it out on an AWA all-bander. Yes, it was there alright — all over the place.

AJ and Gee's shops were regular sources for bits and pieces.

About this time I wrote to the Post Office suggesting that the VK1 prefix be allotted to the ACT.

There was another amateur living in Forrest who was mainly active on 20 metres.

Upon leaving the Taxation Office for the Commerce Department I spent seven months in a school in Sydney, training for Aeradio. After passing my First Class Certificate of Proficiency I spent some short stints at Rose Bay, Liverpool and Mascot before transferring to Canberra Aeradio.

After only a few weeks of duty at the station, I was in contact with an incoming Military Aircraft one morning when there was a jumble of sound and then silence. (In those days operators used a key). The OIC, who had been up in the DME tower came in, said "He is burning", calmly prepared a message and then sent it to Head Office.

Later the Interior Groundsman gave me a detailed description of the crash. He had only a few pounds of foam on a trailer drawn by a Chev utility for fire fighting which was useless with the heat and fueling of this fire. The description was pretty grim.

About the early 40s, when I was absorbing large amounts of noise from the 325/333 kHz receivers, (there was no carrier operated anti-noise equipment in those days), there was a loud bang. I meandered over to the hanger doors but there didn't appear to be anything amiss. As it happened, A J Ryan had mis-judged a cross wind and landed his light aircraft on the hanger. Fortunately, no-one was injured.

I never heard AJ on air as an amateur, he may have been too busy with his business and 2CA.

Leo Deluil, my OIC at Canberra, and an old experienced Marine Operator, made one good point. He said that the First Class Ticket was only a licence to learn. Probably the same can be said for the amateur ticket???

Yours faithfully,

Jim Brinkman VK2IB,
61 Gundagai Street,
Coffs Harbour, NSW. 2450.

AR

HIGHER POWER AND ACCESS

I am aroused to put pen to paper after reading the letter from RA Davey VK6NND in which he demands the novices of Australia pressure the WIA to accede to the higher power and access to 2m request made by a number of novice and some full call operators. (AR April 1985).

There are a number of points to which I draw Mr Davey's attention:

— High power is not a prerequisite for world-wide communications. Highly efficient, high gain home-brew antennas can be as effective. 30W PEP into a 9dB gain antenna will give an ERP of 240W which is better than a full call running 100W into a dipole or vertical.

— High power causes more problems than not. Next time Mr Davey listens to full calls on 20m on what, to us seems a perfectly clear band, he may be staggered to hear a VK told he is unreadable because of the QRM level within the USA. There are many US amateurs who are advocating a down rating of US power outputs to those generally observed by other countries world-wide. Most Americans will admit that higher power simply means more QRM!!!

I run 400W PEP into a 9 element quad-Yagi array and have actually received 4 x 9 plus reports from the States because of QRM. The solution was to work split frequency to transmit below the US phone band.

At no stage was the US signal unreadable at this end.

Could Mr Davey imagine the ISM band if all Japan was allowed full power? On reflecting, I am sure he will comprehend my point.

Be patient Mr Davey, we are at the bottom of the sun spot cycle. Believe me, in a few years you won't need kilowatts to work the world.

The logical solution to this problem apparently faced by so many novices is simple. Remember we have an incentive licencing system which several other countries have copied.

If you want more privileges, study more, sit for the higher exams and keep sitting until you pass.

The attitude displayed seems typical of the 80s — everything has to be handed on a silver platter! Don't think this is sour grapes from a grouchy old full call — it isn't. I started as a novice. I hated CW and still do but was prepared to work for the goal of the full call and gained it along with all the privileges.

In 1980 I received the first DXCC issued to a VK with a mobile endorsement — achieved as a novice. The first 42 countries were worked at 10W PEP from a converted CB set and modified Helical whips on 28MHz. The remainder came at 30W on both 10 and 15 metres. This was achieved in 6 months then with the full call received in late 1980 — world first WAZ mobile was achieved to be followed by single band number one on 28MHz and 21MHz and number 2 on 14MHz.

Mr Davey will probably not believe this but I am still the only amateur entitled to print SSB WAZ Mobile on their QSL cards, and all this with a TS-130S at 100W into mobile whips that conformed with NSW traffic regulations, regarding height.

Try taking on the really big DX pile-ups with that set-up and you soon find how hard things can be.

Yet rag-chewing was easy and great fun with generally good signals on a regular basis into the States whilst operating mobile.

The solution to Mr Davey's problem is not one of lifting power but sticking with it and attempting to have the Americans drop their rs.

And don't forget that not very many countries have a novice grade licence.

Just because the US does something is that good enough reason for us to copy them?

Since when does higher power in DX contests encourages more people to enter amateur radio?

Why does everyone seem to want 2m? In a hilly city like Newcastle, except for repeater operation, 28MHz is a vastly superior band.

Work for the goal Mr Davey do that little extra study and gain the full call and you will have nothing more to gripe about, or can we expect demands for 1kW on the Australian amateur bands?

Yours faithfully,

Philip Greentree VK2IW,
7 Heather Cresent,
Garden Suburb, NSW. 2289.

AR

TEN FM USERS NET

With the decline in sunspot activity the ten metre band of late lacks not only DX signals but any signals at all, which is a pity as it is an excellent noise free band for local contacts. In order to encourage activity on ten metres, and also for something different, I am proposing the running of a ten metre FM users net.

This net will be open to anyone interested in using frequency modulation on ten metres. It will be held on 29.6 MHz, the FM calling frequency, every Thursday evening starting at 1000 UTC. I will use horizontal polarisation and use 145.6 MHz FM for liaison. The net will provide signals for those testing equipment, discuss band conditions, and help keep the band active. I ask Melbourne stations for their support in getting this net going. Hope to hear you on the net.

Yours faithfully,

Ian Sinclair VK3DSI
58 Chute Street,
Mordialloc, Vic. 3195

AR

COMMENTS FROM A NEWCOMER

As a relative newcomer to amateur radio and an aspiring 'Brass Pounder' I would venture a few comments on Pounding Brass, and a Letter to the Editor by B R Schoiz, both in the April magazine.

Having, on more than one occasion, had my humble 10WPM CQ answered at a good 20WPM, I can heartily endorse the general principles and sentiments expressed in the first article.

However whilst the need for word abbreviation and economy in CW is appreciated, it can be rather frustrating for a novice to have to decipher strings of (sometimes home-brewed) abbreviations all before the next "K"

Similarly repetition may be boring for an experienced operator, but it can be very reassuring for a new chum, particularly when dealing with strange, foreign names and QTHs, even in a 5 9 9 situation.

I was somewhat saddened to read of B R Scholz's experiences as my own entry into amateur radio was so different

After a lifetime in other pursuits I too (and also encouraged by my wife) studied for and got my 'call' (November 1984). I did it because of my interest in radio, and did not expect my AOCP to be a key into a fraternity nor did expect anyone to go out of their way to help or welcome me. (I did not study through the W A)

I was therefore pleasantly surprised when it was, and they did anyway

Nor is my experience confined to one band or location I started at the DC end, ie HF, and having run the gamm t of m stakes and faux pas there moved higher into the AC part of the spectrum ie 2 metres, only to find the same help and welcome, despite my fumblings with the repeater(s)

Could it be that Mr Scholz's expectations were a bit too inflexible and disappointment was allowed to come too quickly? And of course, one could as an absolute last ditch effort for acceptance, actually consider attending the odd meeting of the local amateur radio club or even the W AI!

Maybe I have been lucky, but all I can say is thanks fellow amateurs. only hope I can reciprocate adequately in kind when it is my turn to welcome the new chum

My only regret is that there aren't more available hours in the day for more QSOs

FB all round

Dmitri Perno VK4BDP,
7 Hancock Street,
South Brisbane, Qld. 4101

AR

PLEASE QSL!

I observe some concern expressed by thinking amateurs about the need to QSL, with valid cards, all operations using special call sign prefixes such as AX and V

Indeed, at the 1984 Federal Convention Divisional Federal Councillors agreed on a motion recommending QSLing with appropriately printed cards, all operations using AX prefixes

It has just come to me that a solution to this problem exists within the Divisions, namely, a service to members in the form of partially printed QSL cards available free or at a concessional (subsidised?) cost or even at a recovery of printing costs. The cards would need to be pre-printed AX1, VI3 etc with space for the individual amateur to add by means of a rubber stamp his individual suffix Home addresses could be added by means of self adhesive pre-printed labels.

Divisions should think seriously of providing this service as it would become a tangible indication of local action besides most divisions have considerable accumulated funds and can well afford to subsidise a print run for members

Yours faithfully

R G Henderson VK1RH
171 Kingsford Smith Drive,
Melba, ACT, 2615

AR

CONTESTS AND THE TWENTY FOUR HOUR TIME SYSTEM

In the contests column of AR for February 1985, there are some glaring errors in the starting and finishing times for several of the contests listed

In the 24 hour clock system of recording time in general, radio communications, signals message systems, marine and aeronautical navigation systems there is no such thing as 0000 hours or 2400 hours

A moments careful thought will show why The first minute of a new day is always written as 0001 hours because a change of date is involved, similarly the last minute of that date is always written as 2359 hours because the date is about to change again

For example 2359 hours 1st March — 0001 hours 2nd March

There must be this clear distinction to avoid confusion in the date

Reasoning thus the 1985 CLARA AC/DC Mystery Contest is really a mystery because according to the times shown it could be a non-event taking place in no-time

73.

Ted Gabriel VK4YG,
PO Box 245,
Ravenshoe, Qld. 4872

NO METRICS

Amateurs are fairly sensible and practical people on the whole, and among the fraternity, bureaucratic stupidity is rare. When it happens in the pages of 'AR', I tend to blow my top — as when I read on Page 48 of the March issue that "these large rail car tanks are highly dangerous at over 304 6 metres" (Presumably 304 7 metres is a safe distance?)

Since metric measurement is meaningless to me, as to most practical people, I reached for my calculator and translated it to feet The readout was "1,000 feet" and the information immediately made sense. The original estimate of the danger area was obviously a reasonable approximation.

Who was the pedant who translated the original distance to decimetres? Why was it converted at all? Feet are legal Commonwealth units and are internationally used. The Metric Conversion Act does not impose mandatory obligations on anyone to convert to metric, nor to abandon customary measures (feet and inches)

None of us were asked if we wanted metric and most of us don't want it Now that Canada has abandoned metric conversion, Australia is the only major English-speaking country with a metrication programme. Such items as the one referred to above only emphasise the impracticability of metric units.

Marconi measured his wavelengths in feet, but in the early years we adopted the European practice of measuring electrical wavelengths in metres. Enough is enough! Most amateurs measure their physical dimensions in feet and inches — I certainly do, and have no intention of changing. It is time someone pointed out that the Emperor is nude So please, Mr Editor speak to me in English

Yours faithfully

P D Thomas VK5ZPT,
Thomas Hill Road,
McLaren Flat, SA, 5171

In many technical areas metric measurements are easier to handle. 1000 feet should have been converted to 300 metres. I apologise for 304 8. Both you and I feel happier with feet, but our children prefer metric and our grandchildren will know nothing else. Ed.

LET'S NOT BE APATHETIC

The whole concept of amateur radio has always been one of freedom of choice to do "one's own thing" within the confines of our licence conditions.

In recent years our hobby has not only been largely taken over by the black box industry, but it seems big business is now using its muscle power too, by devious methods, take over our magazines and tell us what they consider is best for us like what makes the fastest buck for them!

A recent example of big business flashing its new found power was in the 1296 MHz band plan issue Pressure was applied by a leading amateur equipment manufacturer to make our band plan fit their current production-line equipment Of course, there are many far more subtle examples of the 'big business syndrome"

Unlike Europe and America, Australia has only two magazines devoted entirely to amateur radio. To lose either magazine would be extremely detrimental to our hobby it would leave us even more open to commercial pressure

No matter what our individual opinions may be about either magazine both are devoted entirely to amateur radio. It is most important not only from the commercial pressure view, but for the freedom of speech that both magazines continue to thrive I am sure all Australians would agree that a one-party government is bad news for any country

Both 'Amateur Radio' and 'Amateur Radio Action' provide a great service to members of the Amateur Radio Service with communications in the written form The WIA (AR) claims around 43% membership therefore, in rough figures we have around 50% per magazine Notwithstanding the detailed mathematics there are sufficient licensed amateurs SWLs and other interested persons in Australia to support two magazines So let us try to ensure these magazines and their organisations are working for us, the amateurs, and not big business laughing all the way to the bank

"The pen is often mightier than the mic." Let us not be so apathetic that we lose the right to use both in the way we want to

Yours Sincerely,

Tony Tregale VK3QQ,
38 Wattle Drive,
Watsonia, Vic. 3087

HAPPY WIA MEMBER

I recently received a packet of "goodies" from the Institute in respect of the Seventy Fifth Anniversary Subscription Renewal Scheme.

In a covering letter received it was hoped would receive "some pleasure from the WIA Book and other items. This is quite an understatement received a great deal of pleasure Firstly as being a recipient of the package and secondly from the excellent nature and quality of the items

The WIA Book is excellent Congratulations to those who put it together The pennant woven badge decals and the thought behind the whole scheme are all first class

Again my thanks

Regards

C H Judd VK5HQ,
531 Goodwood Road,
Colonel Light Gardens, SA, 5041.

AR

G FOR GEORGE

The following is a letter to the President of the WIA, Victorian Division

The Association of 460 (RAAF) Squadron have to express their appreciation of the support given by you and your colleagues in the quest for items required to restore the wireless equipment for installation in the Lancaster 'G' George

The T1154 transmitter and R 1155 receiver performed admirably at the presentation to the Canberra War Memorial This was in great part due to the work of those who searched for and those who generously donated the equipment required for assembly The thanks of this Association is extended to all who contributed to this work

On behalf of the President and members of the Victorian Division 460 Squadron

Yours sincerely

B A Niven,
Hon Secretary,
460 Squadron (RAAF) Association,
Victorian Branch,
9 Selbourne Road,
Toorak, Vic. 3142.

AR

CONGRATULATIONS

The excitement of attaining 75 years in the WIA will be a period of reflections and the looking forward to an exciting future

The WIA has contributed a tremendous amount to amateur radio, since its inaugural meeting in March 1910 and no doubt are well prepared for the future.

As one gets a little older we tend to look back at the early exciting days of our introduction to this exciting hobby of amateur radio. At the time it does not appear too significant but as the years pass by, those who have served in the national organisation and at local club level can proudly look at the achievements over the 75 years. The recording of events in 'Amateur Radio' and branch newsletters, maintain a comprehensive history of progress made by amateurs in Australia.

May I on behalf of the New Zealand Association of Radio Transmitters (Inc) its Council, and members extend to the Wireless Institute of Australia its warmest congratulations on 75 years of service to amateur radio. I sincerely hope that the Institute will continue to lead the cause of amateur radio in the decades ahead.

Yours faithfully,

D J Mackay ZL3RW,
PRESIDENT NZART,
22 Walpara Street,
Christchurch 2, NZ.

AR

ANOTHER 75TH

I would like to offer my congratulations for the great achievement in reaching the 75th year of the WIA.

As it is coincidental that I will (I hope) reach my 75th birthday in June, I thought it might be interesting to discover, through Amateur Radio, how many WIA members will celebrate their 75th year this year.

73 and good wishes,

Edgar Nicholls VK7RY,
8 Garden Lane,
Midway Point, Tas. 7171.

AR

THANKS

I would like to take this opportunity to thank the Committee for the very lovely clock, book and logos.

I must say I was overwhelmed at being one of the lucky ones to be picked out of the draw, for these lovely items.

It is the first time I have ever won anything in a draw and this might be a good omen to try for my NAOCP at the next exam.

Thanks once again, cheers and 73,

Fred Page L60354.

I wish to thank you for the Birthday Gift package and the beautiful Quartz clock. I am not usually a lucky person and I certainly consider myself very fortunate to have received these gifts.

I think the selection process gave all members a chance and the gifts very suitable for the occasion. I have already put the stickers to good use.

I have been working for the 75th Award and encouraging others to do likewise.

Very best wishes to all and thank you for your efforts.

88

Poppy Bradshaw VK6YF

Many thanks for the book and gifts as a result of the 75th Anniversary of the W.A.

The book has been able to answer quite a number of important questions for me. I am very pleased with it.

Sincerely,

G Eves VK4FGE.

SURPLUS

I am writing on behalf of the Karratha Chapter of the North West Amateur Radio Society. We have recently obtained a large quantity of surplus radio equipment from one of the local mining companies and we wish to make it available to amateurs throughout Australia.

The equipment consists mainly of STC 151 VHF 'Hi Band' mobiles most of which are the remote type and have no control heads. The condition of the units externally varies from reasonable to poor, however internally all of the units that have been opened are in good condition with their full compliment of boards. These radios would suit conversion to the two metre band (a number have already been successfully converted), or as parts for the junk box; the units all contain a 25 watt PA. We also have a very limited quantity of Philips 828s and General Electric MVP VHF Hi Band sets, these we believe would make excellent units for conversion to repeater sets.

We are asking that interested clubs can get in touch with us. Because of distance and the resultant high freight charges it is not practical to sell the radios as individual units (except perhaps the repeater ones), so we would envisage clubs getting together to take a bulk amount, say at least ten, and sell them to their members.

If clubs are interested in this equipment they can write to the Society address. We can then give full details of what is actually available and the costs involved. In the case of the 151s the unit cost will be very small — freight will probably constitute the major cost!

73s from Karratha NWARS

Nigel Dudley VK6KHD,
Karratha Chapter,
North West Amateur Radio Society,
C/- 58 Padbury Way,
Karratha, WA 6714

ANOTHER WORD ON THE T PLUG

Following the recent publication of a letter in March AR and WICEN notes in April AR, I would like to enlarge on my previous comments, published as part of the Federal WICEN notes, AR, Jan 1985, regarding varying conventions for polarity of Extra-Low-Voltage plugs (Clipsal 495) and sockets with a 'T' pattern of the pins.

To begin, I do not have **ANY** of these fittings in use myself. I therefore have little egotism vested in the arguments I offer, although most amateurs I have tried on this point have been of like mind.

1) *The argument that, when the plug or socket is held or mounted such that the two pins form a 'T', the horizontal pin naturally looks like a '-' sign is, I suggest, banal. While the trade and serial marks on the fittings do suggest this mounting orientation, having the pins side-by-side is just as easy, and would imply the convention as I described it!*

2) *Telecom commonly uses these fittings, but usually on 50V, positive earth systems so, even if someone should inform me which convention they use, I shall suggest it has no bearing on 12V, negative ground usage.*

3) *The import of my previous letter was that, as an easily remembered convention, the 'T' vertical be the **EARTH** as this is so obviously suggested by the correspondence to the Australian standard 240V mains plug and socket. There are good engineering reasons that this be so, **vide infra.** It is purely consequential to this that this pin be the negative, as the usual source of 12V supply is of course, a car or van, and positive chassis vehicles (12V) are very much hens' teeth.*

4) *In common with mains fittings, the design of the plug is such that the 'horizontal' pin is significantly farther from the skirt of the plug, affording this pin a greater safety margin against either contact with a finger (not particularly dangerous at 12V, but important for 240V) or a metallic (earthed) object (very common on the floor of a van!). This design feature is **not accidental.***

5) *It will be noticed that 240V plugs are made with the earth pin longer than the others. This is to ensure that the earth pin is the first to make and last to break contact. This is significant if partial insertion occurs, such as when the cord is stood upon. Similarly, for the 2-pin plug, although both pins are equal in length, sidewise pulls are more likely to dislodge the 'horizontal' pin first. (It may take a little thought on the shape of the pins and leverages involved to see why this is so.) If the active pin is disconnected, the equipment shuts off outright. If the earth pin comes loose, funny things happen!*

6) *The idea of carrying a test plug with polarity indicator is quite good and saves the mandatory fuse being blown by the mandatory 25A 'crowbar' diode fitted inside the set. Unfortunately a LED in series with a (560ohm) resistor rarely indicates at all once it has been connected to 12V in reverse unless it has a second diode reverse connected across itself, preferably another LED of contrasting colour. (Use a transparent plug!)*

7) *I have referred to the Clipsal series number. Both the 2- (ser 495) and 3-pin (ser 439) plugs of this make appear vastly superior in cord grip, wiring tell-tale and finger grip/skirt design. Transparent covers may also be substituted.*

I agree with VK6RD that 'someone should define the standard for the use of these fittings in Australian amateur usage'. It should be borne in mind, however, that this might be just a little against the amateur nature. It was indeed my reason for submitting the letter to the national WICEN co-ordinator in the first place. The April WICEN column refers to a so-called 'WICEN convention' but the lack of 'official' reply to my original letter convinces me that this really means 'Melbourne WICEN Group convention', just as I quoted the Sydney group signal/control line convention.

My hope is that on both these matters a Federal WICEN meeting, or perhaps poll by mail, might result in an overall standard following consideration of both engineering principles and actual numbers of members with a given system in use. Certainly WICEN is the only 'authority' in a position to do this. Publication in catalogue and callbooks could then follow.

73

Paul Webster, VK2BZC
59 Gore Street, Port Macquarie NSW 2444

AR

Correspondence has been received from VKs: 2AEV, 2DTH, 4EH and L50567 with reference to the type size in Amateur Radio. We are acutely aware of some readers' problems with the type and are trying to devise some means within our limited budget, of at least reverting partially to a more readable type.

SHOW A NON-MEMBER

The progress of amateur radio from spark transmitters to the modern day transceivers, must rate as one of the greatest achievements of this century. Of course there have been a few little problems along the way, but amateurs being amateurs got together to talk over these diversions and so an organisation was formed to look after the needs of amateurs. Thus the Wireless Institute of Australia was formed.

Not only is it the worlds oldest radio society, but today it still is a vigorous and dedicated body looking after the needs of all amateurs. Today, I believe the need for an organisation such as the WIA is just as paramount, and I would strongly recommend your membership. The continuing pressure worldwide on frequency allocations alone, needs a united stand. We need a strong society, for undoubtedly the benefits we enjoy are a reflection on the Institutes ability.

Well done and congratulations to the W.I.A. on your 75th anniversary. Long may your service and vision continue.

Editorial from Back-Scatter

AR

LIFE MEMBER

Lyle Patison VK2ALL, well-known from his exploits with moonbounce and EME, written up regularly in the VHF/UHF columns of AR, has been recognised for his services to the Illawarra ARS. Lyle recently received life membership of the Society.

Silent Keys

It is with deep regret we record the passing of —

GEORGE CRUICKSHANK	VK2BCG
01:04:1985	
WALTER FERRIS	VK2PWF
18:03:1985	
R L C GREAM	VK2AFP
W M (BILL) MOORE	VK2HZ
27:03:1985	
ERIC G PIDGEON	VK2DLO
31:08:1984	
LES SIMONS	VK2NLE
04:04:1985	
MRS MARGARET STAHL	VK2AHD
26:03:1985	

WALTER GEOFFREY FERRIS VK2PWF

Wal passed away on 18th March following a long period of indifferent health.

Born near Benalla, Vic in 1904, Wal studied at Avondale, NSW, qualifying as a teacher with additional qualification in business administration and as a minister.

He served as a missionary in Fiji for twenty-three years and for shorter periods in Tonga and the Gilbert Islands. During this time he studied for his Masters' Sailing Ticket and had many overseas voyages in both large and small craft between the West Coast of the USA and various Pacific Islands.

In the later years of his missionary service he was stationed on Pitcairn and he designed the Pitcairn flag which was recently accepted by the colonial government. (Refer AR page 38, May).

Following his return to Australia he was appointed to an Aboriginal mission and then back to Lord Howe Island where he had spent much time as a boy.

It was whilst in the remote places he lived that Wal learned the value of amateur radio and he gained his amateur licence at the age of eighty years. He had passed the limited licence and was awaiting the results of his Morse test when he passed away.

This truly remarkable gentleman will be sadly missed by all who knew him.

Westlake ARC-Monthly Newsletter March 1985.

JOHN WALTER GERARD VK2ADN
24.03.1906 — 03.03.1985

John Gerard VK2ADN, radio amateur, movie projectionist, news cameraman and recently author, passed away in Baringa Private Hospital on 3rd March 1985 at the age of 78 years. John had been a radio amateur since 1934.

John and the late Eric Pugh VK2ADK, who later became his brother-in-law, studied for and passed the amateur examinations together and enjoyed many happy hours of amateur operating. They exchanged some thousands of QSL cards with amateurs they met on air and Jack received one from Castros of Cuba.

On one occasion John was speaking with an American who had a visitor in his shack. The visitor identified himself as 'Ike'. He later discovered that it was President Eisenhower.

In 1958 John and his XYL, Marie made a trip to the USA, Canada and Mexico. They attended the Lions' Convention in Chicago and later met and were entertained by many amateurs, some of whom later visited them in Australia. One particular meeting of interest was when John met John W9WCE, as they had had a long friendship over radio for 22 years, and finally met face to face.

John was a member of Coffs Harbour Lions' Club for over 31 years and was one of very few who could recite the Code of Ethics and the Lions' Objects from memory. He participated yearly in the "Hunting Lions in the Air" contest.

He always maintained an interest in moving pictures and was instrumental in forming a company with the late Lawrence Penn (The Picture Show Man).

On 15th March 1937 he opened the Tasma Theatre in Coffs Harbour which provided a high standard of entertainment for the patrons until 30th June 1968. He also acted as a Cinesound newsreel cameraman on the North Coast.

John was the great-grandson of one of Sydney's first surgeons and a nephew of the founder of the retail and shipping firm, Gerard and Co.

During the past five years the writing and publication of his book "From Pastures Green to the Silver Screen" occupied much of his time and was a climax to an eventful and interesting life.

John is survived by his wife, Marie, a son, two daughters, eleven grandchildren and two great-grandchildren to whom deepest sympathy is extended.

From information supplied by Mrs Marie Gerard.

WILLIAM MCINNES MOORE VK2HZ

WILLIAM MCINNES MOORE was born on the 18th February 1911 to ERNEST and LUCY MOORE, of Crows Nest, and was their eldest son. He attended the Suspension Bridge Primary School, Cammeray — then a junior technical school, where he passed his Intermediate Certificate at the age of 15. Although his mother was keen for him to obtain tertiary qualifications, the death of his father when he was only 19, required that he remain in the workforce as it was left to Bill to be the sole support of his mother, sister and brother who is now Sir John Moore. Immediately after obtaining his Junior Technical School Certificate, he joined the Metropolitan Water Sewerage & Drainage Board as an apprentice fitter and turner. He retired 42 years later due to ill health in January 1969 and was then Chief Inspector, Testing and Inspection.

During his early teens, he developed an avid interest in what was at that time the exciting new technology of wireless. On the 29th July 1931, at the age of 20, he was issued an Amateur Operators Efficiency in Radio Telegraphy Certificate No 792. This interest was to have a dramatic effect on his life as it led him to many places which he may otherwise not have seen and certainly created for Bill Moore, a network of friends throughout Australia and the world. As an example of his passion for this new technology, his original logbook shows that he made almost 1500 contacts with other operators in the first two years — an average of 2 every day for that period. The Water Board recognised not only his keen interest in radio, but technical proficiency, and in 1936 he was seconded from his normal duties to carry out experimental work in connection with the Board's use of radio telegraphy.

For 30 years, 1933 to 1963, he was a regular journalist firstly for the Wireless Weekly then Radio and Hobbies, and finally Television Radio and Hobbies. He wrote a monthly column which when I was going to school, I recall was titled "Around the Ham Bands with Bill Moore" I can remember well, my father sitting up night after night copying in his very good handwriting, his notes for despatch to the editor, and the assistance which the receipt of the fee cheques made to our then very tight family budget. Bill Moore joined the Wireless Institute of Australia in 1929 and at the young age of 24, was elected Federal President during a period of some turmoil and interstate rivalry. He held this position for four years until 1938. After the war, he was State President of the NSW branch in 1947 and 1948. Later he was instrumental in forming the Blue Mountains branch of the Wireless Institute in 1958 and was Secretary for its first ten years and President for another four years until 1972. To Bill Moore, his wireless, and his wireless room, was more than an interest; it was an excitement, a stimulation, a sanctuary in times of stress, and a love. He was a life member of the Institute.

In 1934 another and more significant love appeared in the form of Doreen Ashton who he had met by chance at a dance at the Wollongong Golf Club. He was boarding in Wollongong whilst carrying out inspection work at the Australian Iron & Steel works in Port Kembla, and on this night Doreen Ashton had been asked to attend a dance as company for the girlfriend of her brother Harry. Bill and Doreen were introduced by the Club Secretary, and a lifetime attachment was formed. They married fifteen months later on the 13th April 1935 in St Michael's church in Wollongong and would have celebrated their fiftieth wedding anniversary this year. A son, John, was born on the 23rd August 1936.

By 1938 the international scene had deteriorated and war clouds were massing. It was in this year that Bill Moore joined the RAAF Wireless Reserve so that at the outbreak of war, he was called up and commenced duties on the 6th September 1939 as an aircrew wireless operator. He embarked for Singapore on the 10th August 1940 where he was attached to No 8 squadron in Northern Malaya. Early in 1941, he was seconded to the Royal Air Force and attached to their pioneering radar installation and maintenance unit.

He was responsible for the erection of radar stations throughout Northern Malaya. In April of the same year, he was first commissioned as a Pilot Officer and then in the October, was promoted to Flying Officer. As the Japanese advanced, he was responsible for the progressive destruction of the radar stations which he had installed. Still attached to the RAF, he was evacuated from Singapore to Java in February 1942. He was captured in the March and for 3½ years until his release in September 1945, was held in 8 different prisoner of war camps, having been moved 10 times. He returned home on the 30th September 1945 just over 5 years from the date of his departure and was met by his family of two at No 1 platform, Central Railway.

An excerpt from the "Saga of Achievement", written by Group Captain D R Hall, Retired.

"In March 1942 all Airforce personnel remaining in Southern Java were assembled at Tasik Aerodrome prior to being moved as prisoners of war to barracks in Batavia. Flying Officer W M Moore, an RAAF radar officer removed some command receiving equipment from Kittihawk aircraft, a number of which was scattered about the aerodrome either in a new or crashed condition. This receiving equipment was then smuggled into the camp in Batavia where it was modified for operation from torch batteries.

"The radio was concealed in a hole in the floor of the barracks formed by moving two tiles and excavating earth and replacing the tiles in position to give the appearance of an undisturbed floor. While operating the set after dark, a tile was removed and an aerial was run up and connected to a wire strung across the room and used to support a mosquito net. Head phones were removed from the hole and Moore received the news bulletins from All India Radio Delhi. Later bulletins were received from the ABC and the BBC. Next morning, the news bulletins were passed to a senior officer, who

secretly disseminated the news to other prisoners of war.

"When batteries became scarce, small transformers were manufactured and the unit was rebuilt to fit into the bottom of two standard issue water bottles. A false bottom was installed in each water bottle to allow 4 inches of water and a space below for the parts of the radio. This radio was used for 18 months, carried from camp to camp and survived numerous searches by Japanese guards.

"In 1944, all water bottles held by prisoners of war were seized by the Japanese for use by native troops so a new place of concealment had to be found for the radio. The final receiver was built into the heels of a pair of wooden cloggs which were standard footwear for prisoners of war. It was with this receiver, that news was received of the atomic bomb and the capitulation of the Japanese."

For this gallant and dangerous activity, Bill Moore was awarded a "Mention in Despatches" and received on Oakleaf Emblem.

After the war Bill set about rebuilding a normal life with Doreen. They had two children — Lucille who was born in 1946 but who survived only a few days, and Bill who was born on the 15th April, 1949. Bill senior returned to the Water Board and over the years became involved in many community activities.

He was a keen fisherman, particularly for "niggers", and many a happy hour was spent with him by his friends and family standing beside his special spot, trying to encourage those elusive fish to the greenweed bait — and more often than not, he succeeded. He was a keen photographer and has left a wonderful legacy of photographs.

In 1956 the Springwood RSL sub branch was in the words of their Golden Jubilee Review, "in deep crisis" and "survival threatened". Bill Moore had joined the year before and in 1956 was appointed Treasurer. For the next two years, a period described in the same Golden Jubilee Review as "the great recovery", he was President, and his organisational and leadership abilities were a major factor in the renaissance of the sub branch during that period. Until he was stopped by ill health, he was for many years, the organiser of the Anzac Day marches in Springwood.

Bill was a person that never sought the public stage, nor the limelight and yet both people and organisations turned to him when problems developed and steady, dependable and strong leadership was required. He probably never achieved his real potential due to the circumstances of his education, his early working life, and the intrusion of World War II. However, this to him was never a regret. He viewed his life and his achievements with a quietly modest and unassuming joy of life and people. May he be remembered for those good works which gave him so much satisfaction. Although reserved and quiet, he was a good man, a wonderful father and husband, a person who enjoyed his life to the full in a very personal way. Especially, he is remembered for good humour and in the words of a close friend who wrote to him when he retired in 1968, "Bill, I will miss your cheerful face — I cannot remember it any other way".

John A Moore,

LES SIMONS VK2NLE

On Thursday, 4th April 1985 amateur radio in general and the Royal Signals Amateur Radio Society in particular sadly lost one of its most efficient and courteous operators.

My first contact with Les was in the latter part of 1960. Les, at the time, was conducting a net on behalf of the Royal Sigs ARS and was in contact with the UK chapter of the Society. Being, at that time, newly licensed and eager to possibly make my first DX contact, I called in and will never forget the kind and efficient way in which Les introduced me to his compatriots in the UK.

Les, in addition to being Secretary of the RSARS (VK/ZL Chapter) was also editor of the Society's official journal "Jimmy", which was originally produced in Palestine in 1940. Due to the untiring efforts of Les, the VK/ZL Chapter grew from a handful of operators in the 1970s to the stage that it is now — one of the largest and most respected groups of its kind.

To his immediate family on behalf of his many friends and fellow amateurs we extend our most sincere and deepest sympathy.

Tom Delandre VK2PDT.

MARGARET STAHL VK2AHD

I regret to advise that Margaret Stahl VK2AHD passed away in her sleep, after a short illness on the 26th March 1985.

Margaret served in the WAAAF for a period of five years during World War II, rejoining the WRAAF on it's formation after the war, attaining the rank of Sergeant. Margaret was the first Australian Servicewoman to receive the Long Service and Good Conduct Medal.

At the age of 60, Margaret was persuaded by her OM to study for the Novice examination. Not satisfied, she continued her studies and achieved her Full Call in two years of study, having four call signs in twelve months: VK2VPQ, VK2YYL, VK2KES, and VK2AHD.

Margaret was a member of the WIA, ALARA, WARO, AFARN, YL INTERNATIONAL SSB'ERS, TAREE ARC and WESTLAKES ARC. She was the only regular YL on the call backs on the Sunday Broadcasts.

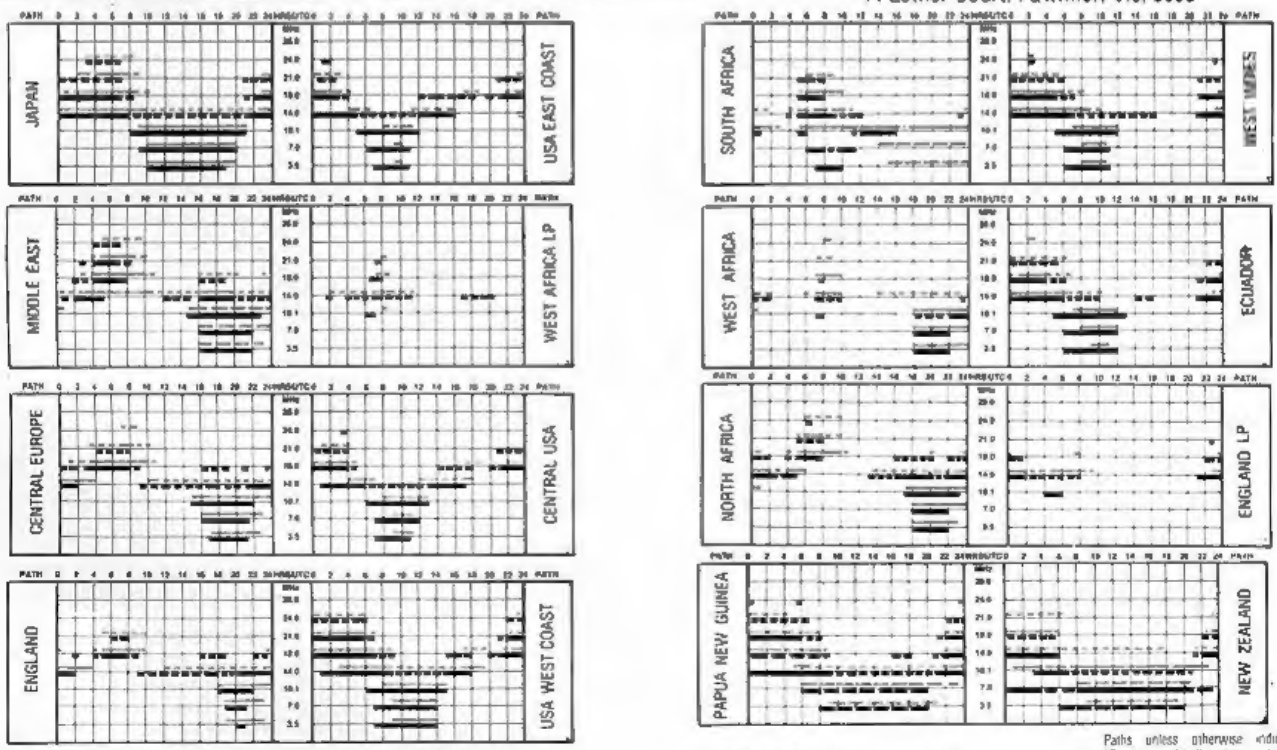
She will be sadly missed by all who had the pleasure of contacting her.

Deepest sympathy is extended to her OM Les and family, and her sister Gwen Pearce and family.

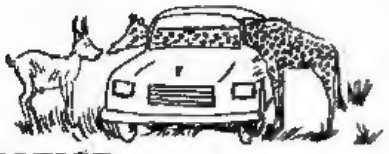
D Pearson VK2AVO

IONOSPHERIC PREDICTIONS

Len Poynter VK3BYE
14 Esther Court, Fawkner, Vic, 3060



NOTICE



NOTICE

All copy for inclusion in August 1985 Amateur Radio must arrive at Box 300, Caulfield South, 3162 no later than midday 21st June.

HAMADS

PLEASE NOTE: *If you are advertising items FOR SALE and WANTED please write each on separate sheets, including ALL details, eg Name, Address, on both. Please write copy for your Hamad as clearly as possible, preferably typed.*

- **Please insert STD code with phone numbers when you advertise.**
- Eight lines free to all WIA members. $9 per 10 words minimum for non-members.
- Copy in typescript please or in block letters double spaced to PO Box 300, Caulfield South 3162.
- Repeats may be charged at full rates.
- QTHR means address is correct as set out in the WIA current Call Book.

Ordinary Hamads submitted from members who are deemed to be in the general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being resold for merchandising purposes.

Conditions for commercial advertising are as follows: The rate is $22.50 for four lines, plus $2 per line (or part thereof) minimum charge $22.50 pre-payable. Copy is required by the deadline as stated below indexes on page 1.

☐ TRADE ☐

AMIDON FERROMAGNETIC CORES: Large range for all receiver and transmitter applications. For data and price list send 105 x 220 mm SASE to: RJ & US IMPORTS, Box 157, Mortdale, NSW. 2223. (No enquiries at office . . . 11 Macken Street, Oakley). Agencies at: Geoff Wood Electronics, Rozelle, NSW. Truscott Electronics, Croydon, VIC. Willis Trading Co., Perth, WA.

70 cm power/VSWR meters (see p 23, AR July 1984) 50 W @ $112.60. 23 cm long loop yagis from $64.80. Waveguide modules, tubing & flanges. Gun & mixer diodes at good prices. 0.141" semi-rigid coax @ $2.50/metre. 1/16" DS PTFE board @ 14c/sq cm. 17 pF UHF Porcelain variables @ 10 for $3.50. Send SAE for lists to Microwave Developments, 6 Netley Road, Mount Barker, SA 5251.

☐ WANTED — NSW ☐

COPIES OF BOOKS: Australian Official Radio Service Manual or Gernsbacks Radio Encyclopaedia or old radio text books. Please state price to Brian VK2DLM, 60 Yellow Rock Road, Urunga, NSW. 2455.

DON'T DUMP IT — DONATE IT . . . All that surplus radio gear stored in your garage is now too old to be of any value. Before you dump it please contact me for possible donation to our museum. Particularly seeking ex-military comms equipment that can be refurbished for working exhibition — as described in AR. Colin MacKinnon VK2DYM, Box 21, Pennant Hills, NSW. 2120. Tel: (02) 634 6259 AH.

HANDBOOK FOR IC-502: In English language. Will reimburse for out of pocket expenses. Please contact Carl VK2EEC, QTHR. Tel: (02) 671 6595.

MANUALS . . . Loan required of circuit diagrams or photocopies of PRC10 tcvr. All costs paid. G Campbell VK2ZQC, Box 403, Drummoyne, NSW. 2047. Tel: (02) 81 2143.

☐ WANTED — VIC ☐

FRONT COVER, TELESCOPIC AERIAL: volume & band change Bowden cables, also full webbing are required for WWII Army HF back-pack rx/tx. VK3AQB. Tel: (03) 337 4902.

ICOM 225: 2m tcvr. Peter VK3PRB, QTHR. Tel: (051) 44 3398.

☐ WANTED — QLD ☐

VALVE TESTER: In OC and working. Also CCT diagrams/h'books for the following. All costs paid in full. Triplet tester model 1183-SC, Triplet valve tester No 321, Triplet cap Tester 240, AWA BFO R 7077 No 6 & Weston osc 776. Roland VK4EG, QTHR. Tel: (07) 376 4772.

YAESU FRDX-400/FLDX-400: Also Eddystone 680 OC rx. State price & cndx to VK4CB, QTHR. Tel: (07) 202 6566.

YAESU 480R: tcvr. 2m all mode, complete in OC. VK4GM. Tel: (079) 34 2910.

☐ WANTED — SA ☐

SWEEP GENERATOR PLUG-INs: E-1 or E-2 for a Telonic SM-2000 sweeper & any plug-in oscillators for an Alfred 650 sweep osc. Details to Charles VK5MC, QTHR. Tel: (087) 35 9014.

☐ FOR SALE — ACT ☐

TS-520 & EXTERNAL DIGI VFO, FV-101DH: 12 mems, scanning, split freq op. 100+W, all bands. $450 in VGC. FQG-7 comms rx. $200 VGC. Full manuals with all gear. VK1KCM, QTHR. Tel: (062) 48 8826.

YAESU FT-757GX: tcvr. $875. YAESU FT-757HD (heavy duty power supply) $245. Yaesu FC-700 ATU with inbuilt 100W dummy load. $125. Yaesu MD-1B8 desk mic. $75. A1 cond. Is a complete HF station-package deal for $1200. Theo VK1KV, QTHR. Tel: (062) 61 2097 BH.

☐ FOR SALE — NSW ☐

ICOM R-70 SUPERIOR COM RX: In mint cond. 100% performance. $550. VK2ETP. Tel: (049) 45 4989.

ICOM 730 TCVR: power supply, 3 band Fritzel vert antenna, 3 band Yagi (unused), rotator, mast, guys, cables & access. (All new). $950 ONO. Tel: (043) 32 5163.

KENWOOD TS-520S: Immac cond. First to see will buy. VK2DVJ/VK2KL, QTHR. Tel: (044) 76 7850 AH.

SHACK CLEARANCE: Swan 500 with VOX unit & electret desk mic. $350. 410 outboard Swan VFO unit. $120. $450 as complete unit or will separate. 227R Yaesu 2m tcvr. $200. DX-160 comms rx. $65. Hustler 2m ant twin 5/8 co-linear, nearly new. $35. Home-brew ATU in Dick Smith cabinet. $25. All gear in perfect working order, some spare valves. Brian VK2DLM, QTHR. Tel: (066) 55 1570.

TOWER SECTIONS: 6' long by 8" per side triangular, braced & galvanised. Very strong, ex Army. Can be stacked to 108' using guys. $20 per section. Colin VK2DYM. Tel: (02) 634 6259 AH.

WILSON SYSTEM 2: four el triband Yagi. Very strong design. Max input power 4kW. In VGC. $220. John VK2DPC, QTHR. Tel: (069) 62 5547 AH.

YAESU FL-2100Z LINEAR AMP: As new $600. VK2CE, QTHR. Tel: (02) 871 7758.

☐ FOR SALE — VIC ☐

COLLECTORS ITEMS: Palec valve tester, Palec sig gen, Palec VTVM, 5" CRO, WWII equip. Wave meter type W1117, CRO indicator unit type 6A/APN-4 & more. Old tx, rx, valves & parts including a Ford spark coil. Also old radio text books & WWII equip instr books. All $400. VK3WD, QTHR. Tel: (054) 35 2274.

COMPLETE HF STATION: TS-120V 10-80m tcvr, VFO 120, TL-120 linear, MC-35 mic. All as new with leads, manuals etc. $600 carriage paid. VK3CVA, QTHR. Tel: (051) 49 4125.

ICOM 720A: In mint cond with manual, orig pack, etc. See, hear it working. $850. Ken VK3AJU ex VK3KQX, QTHR. Tel: (03) 654 2533 or (03) 527 9029 AH.

KYOKUTO: tcvr (just serviced by Dick Smith). 12V, 10W FM, 800 freq, 5kHz digi steps 144-148 MHz. Manual incl $150. Standard h'held FM 144-148MHz tcvr. 12V, 2W out. Suited for port or base use. Complete with charger, mic & n'cads, xtal switching, 5 positions, just serviced. 2 sets xtals. $150. VK3AAP. (055) 62 6016.

MFJ-941C ANTENNA TUNING UNIT: 300W ATU incl VSWR & watt meter. Very little use. $80 ONO. Max VK3AMC, QTHR. Tel: (03) 592 9036.

SHACK SELLOUT: Kenwood TS-430S HF $900 with mobile mount. TS-660 with power supply. $450. TW-4000A, 432/144 FM twin. $500. Icom IC-251A $700. All prices ONO. VK3BEL, QTHR. Tel: (053) 54 1397 weekends.

YAESU FT-107DMS: tcvr. 160/10m. Built-in power supply, 12 mems, h'held scan mic, all cables, h'book etc. VGC. WARC bands not fitted but all factory supplied parts, circuits, instrs for any YWO WARC bands incl. On air demo can be arranged. $850. Yaesu FRG-7 rx. 0.5-30MHz. AC or battery operation. VGC. $220. Allan VK3AMD. Tel: (03) 570 4610.

YAESU FT-7: tcvr with instr manual. $375. Also power supp to suit $150. Chirnside CE-42 duo beam 15-10m. $100. Ken VK3VKS, QTHR. Tel: (03) 547 4082.

YAESU FT-707: with FV-707DM. 16 mems & scan mic in OC. $725. Jim VK3DPO, QTHR. Tel: (03) 857 5342.

YAESU FT-7: HF tcvr. 10-80m plus 11m fitted. Ex cond with manual. $325. Paul VK3AJJ. Tel: (03) 435 3643.

YAESU FTDX-400: tcvr. Excel cond. Must sell. $350. Andy VK3DPJ, QTHR. Tel: (03) 553 3483 AH.

☐ FOR SALE — QLD ☐

ATV EQUIPMENT: Incl B & W Sanyo VC-1400 video sound camera, converter, tx, 88 el antenna. The lot $495. Tel: (075) 56 0039.

COMMUNCATIONS RX: DX-302. Quartz synth digi LED read-out. 10kHz-30MHz in 1MHz steps. USB/LSB, CW, AM, 5 meter, tuneable RF stage etc. PC $250. Fred VK4RF, QTHR. Tel: (07) 200 7916.

KENWOOD TS-120V: tcvr. 80-10m. Very little use. Complete with noise cancelling mic & power supply. Mint cond. $520. Kenwood TS-120 linear to suite above tcvr. 100W PEP. Never used. $200. Scalar SC-22DX, 5 band trap vert. Never used. $80. Quantity of coax, PL-259 plugs, low pass filter & coax ant. $30. Tel: (07) 284 1127 after 6pm.

S-100 16k DYN RAM: $85. VK4ZLO. Tel: (07) 286 2921.

☐ FOR SALE — SA ☐

ATVERSE! Looking for a port VHS VCR to match your colour camera? This is for you. Hanimex VR-650 (same as Hitachi 6500) with Campanion 8 mem timer/tuner/pwr sup/batt charger. Full remote control with visual search, slow-mo frame advance etc. 2 good re-charge batts, shower proof back-pack, aluminium carry case, h'books. Superseded model. Cost $1450 new — $950 ONO. VK5KO, QTHR. Tel: (08) 269 3130.

KENWOOD TS-520S: HF tcvr with manual & mic. OC. $500 ONO. VK5FF, QTHR. Tel: (087) 25 4248.

☐ FOR SALE — NT ☐

MICROLOG AIR-1 CW & RTTY: Plug-in unit to suit Commodore 64. Computer complete with adapter plugs & manual. No software required all in onboard ROM. $200. Roger VK8IO, QTHR. Tel: (089) 52 4087 AH.

ADVERTISERS' INDEX

Announcing the new IC-735.

You have been waiting a long time for a compact (94mmH * 241mmW * 239mm) HF rig with performance you would expect only from the Icom stable. 100 Watts output, and Icom's direct fed input mixer will provide you with competition winning performance.

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The IC-735 has many features and options to provide you with hours of radio enjoyment. Because the Icom engineers dispensed with the normal power cage at the back, you will be able to fit the IC-735 into ... just about anywhere.

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Single control triple speed tuning allows frequency resolution to 10Hz. The processor provides 3 scanning modes which includes mode scan, memory scan and program scan. The memory channel (there are 12), operating frequency, VFO, mode and RX/TX are all displayed on the illuminated LCD.

RECEIVING

Icom's direct fed mixer helps to provide outstanding performance in receive, for example Image response of 80dB. Input attenuation, pre-amp and RF gain control combine with notch filtering and pass band tuning to provide the most comprehensive tuning system. Naturally Icom have included the general coverage facility.

TRANSMITTING

100 Watts of clean power (Spurious emission <–50dB) is available on all the amateur bands. The controls not often used, VOX, mic gain and RF power controls are tucked away in the Kangaroo pouch. An optional electronic keyer (EX243) with full break-in facilities are also available if you enjoy CW.

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